

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008553462-01	OBS	No	2.768998	134.441172	0.0	18.950	9.1	0.0	1.84	7296	0.04	4252.50
008553462-02	OBS	No	168.691133	165.172770	602.2	19.886	24.6	22.0	1.84	7296	8.50	17.74
008553462-03	OBS	No	169.273644	193.500394	205.1	21.249	17.4	12.1	1.84	7296	2.77	17.66
008553462-04	OBS	No	215.902359	155.628727	135.2	9.415	10.6	10.0	1.84	7296	2.42	12.77
008553462-05	OBS	No	86.462681	131.957604	195.8	2.322	9.6	9.9	1.84	7296	2.98	43.25
008553462-06	OBS	No	15.001439	132.186756	73.2	5.330	8.7	10.2	1.84	7296	1.80	446.92
008553462-07	OBS	No	265.683201	389.849295	210.2	64.946	9.4	9.8	1.84	7296	2.93	9.68
008553462-08	OBS	No	82.624800	210.760893	185.7	2.972	9.0	8.8	1.84	7296	2.94	45.95
008553462-09	OBS	No	143.910724	263.113872	178.3	4.800	8.7	8.3	1.84	7296	2.86	21.93
008553462-10	OBS	No	42.186045	144.620372	281.0	1.500	9.1	-1.0	1.84	7296	3.14	112.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553462-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008553462-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

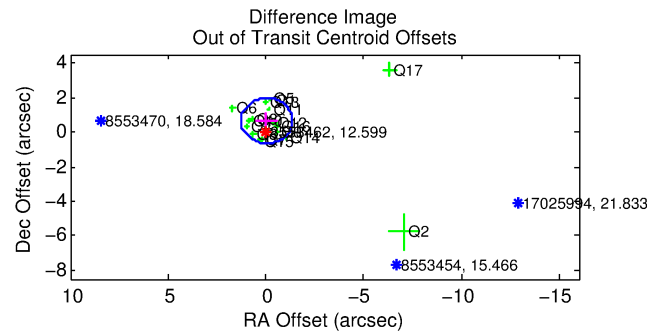
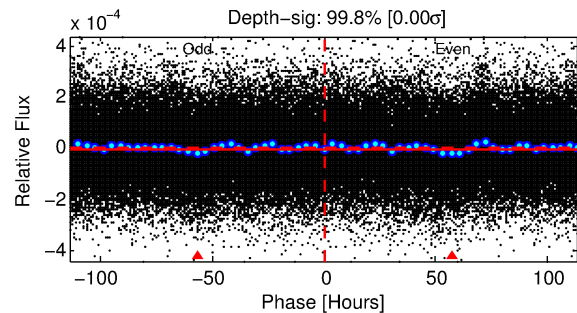
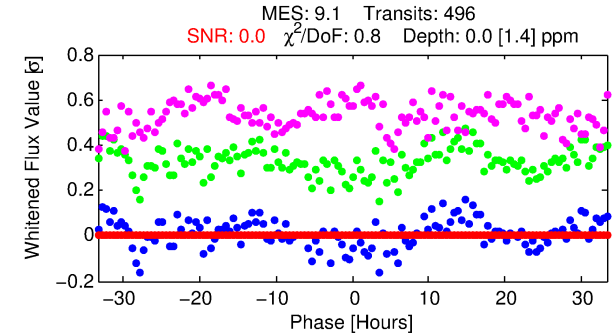
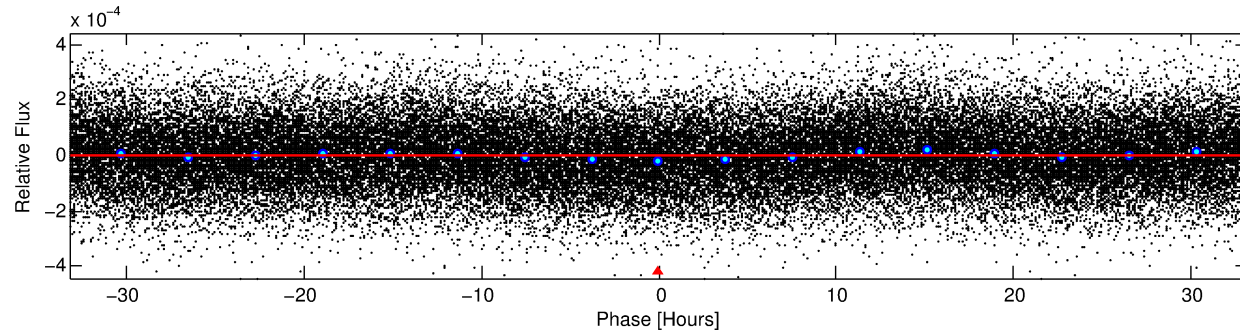
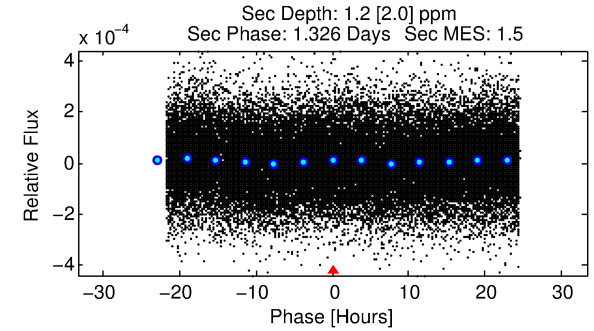
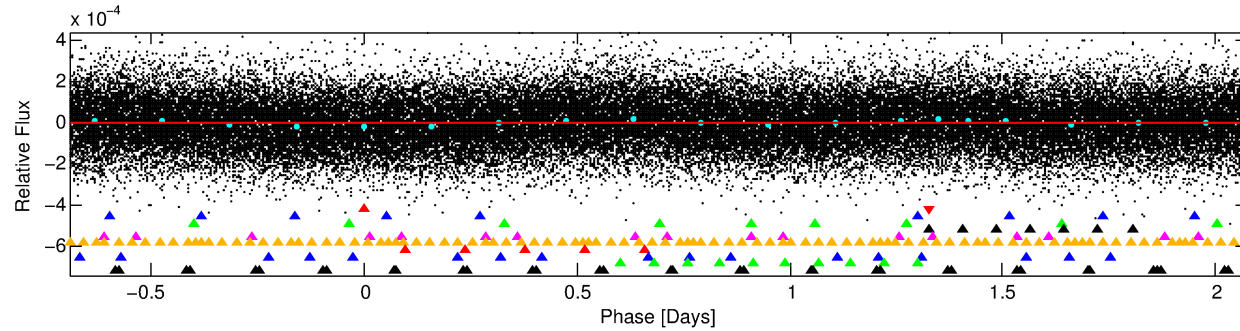
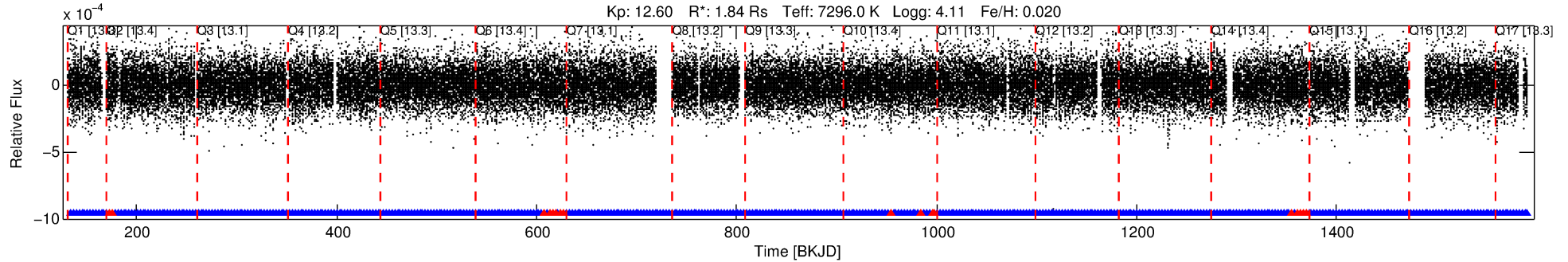
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-01

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 1 of 10 Period: 2.769 d



DV Fit Results:

Period = 2.76900 [0.01583] d
Epoch = 134.4412 [3.1783] BKJD
Rp/R* = 0.0002 [0.0036]
a/R* = 1.16 [5.68]
b = 0.67 [16.69]
Seff = 4252.50 [1662.63]
Teq = 2059 [201] K
Rp = 0.04 [0.72] Re
a = 0.0451 [0.0111] AU
Ag = 905.59 [33182.39] [0.03σ]
Teffp = 17465 [159983] K [0.10σ]

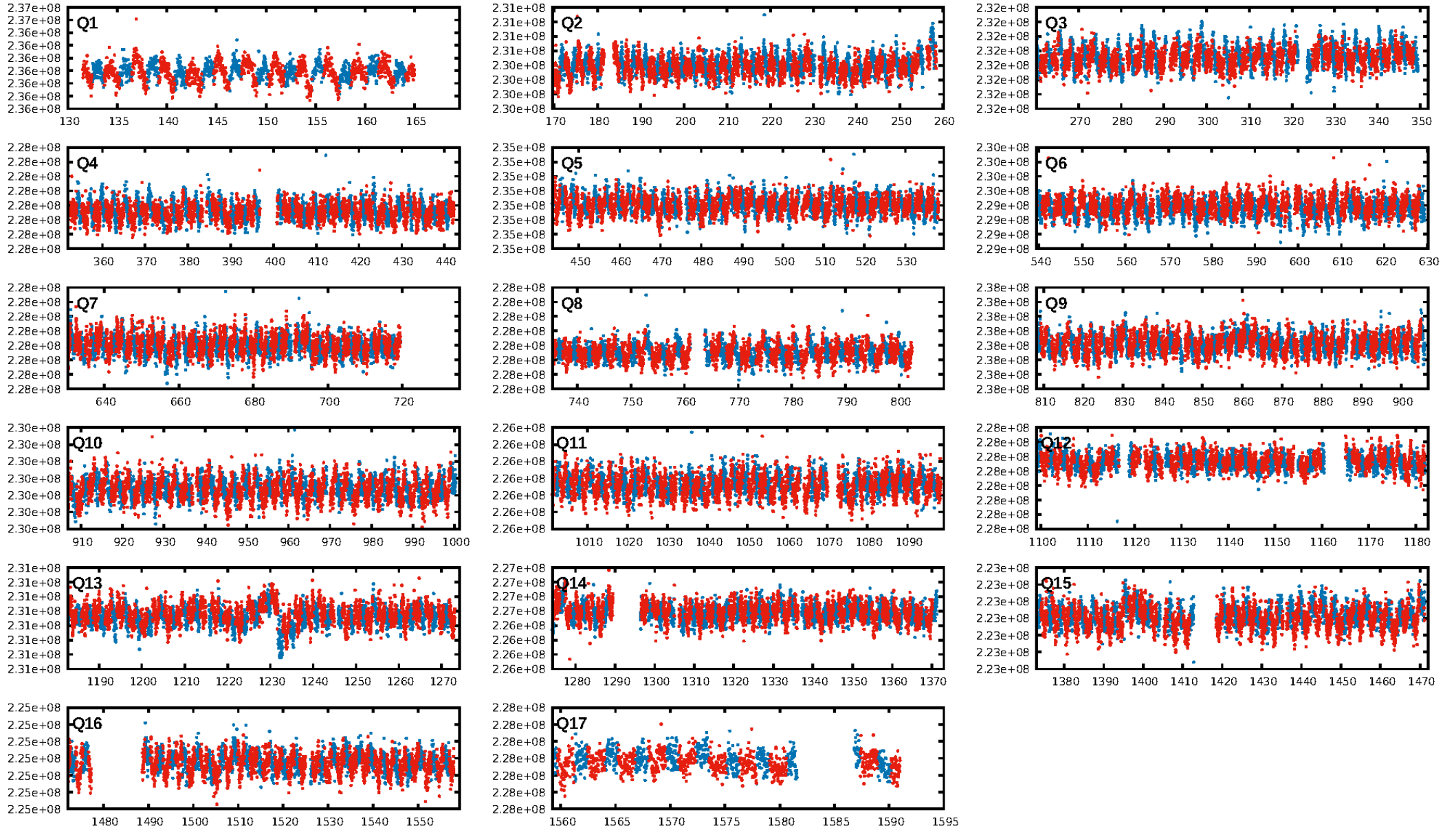
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [14.91σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: 0.96 [456/473]
GhostDiagnostic-chr: N/A
Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: 0.663 arcsec [1.52σ]
KicOffset-rm: 0.670 arcsec [1.28σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.76 [13/17]
DiffImageOverlap-fno: 1.00 [17/17]

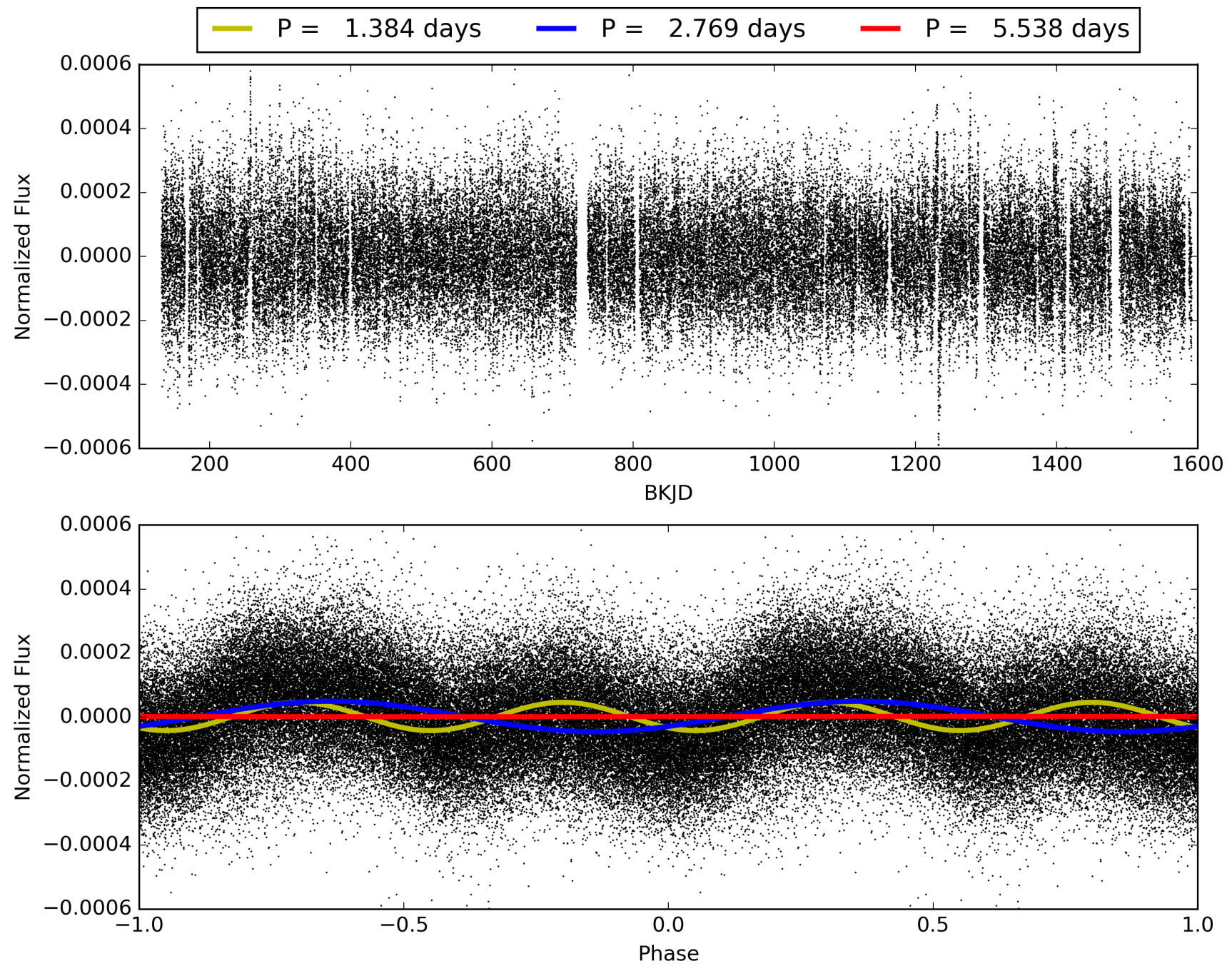
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:17:57 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008553462-01, PDC Light Curves

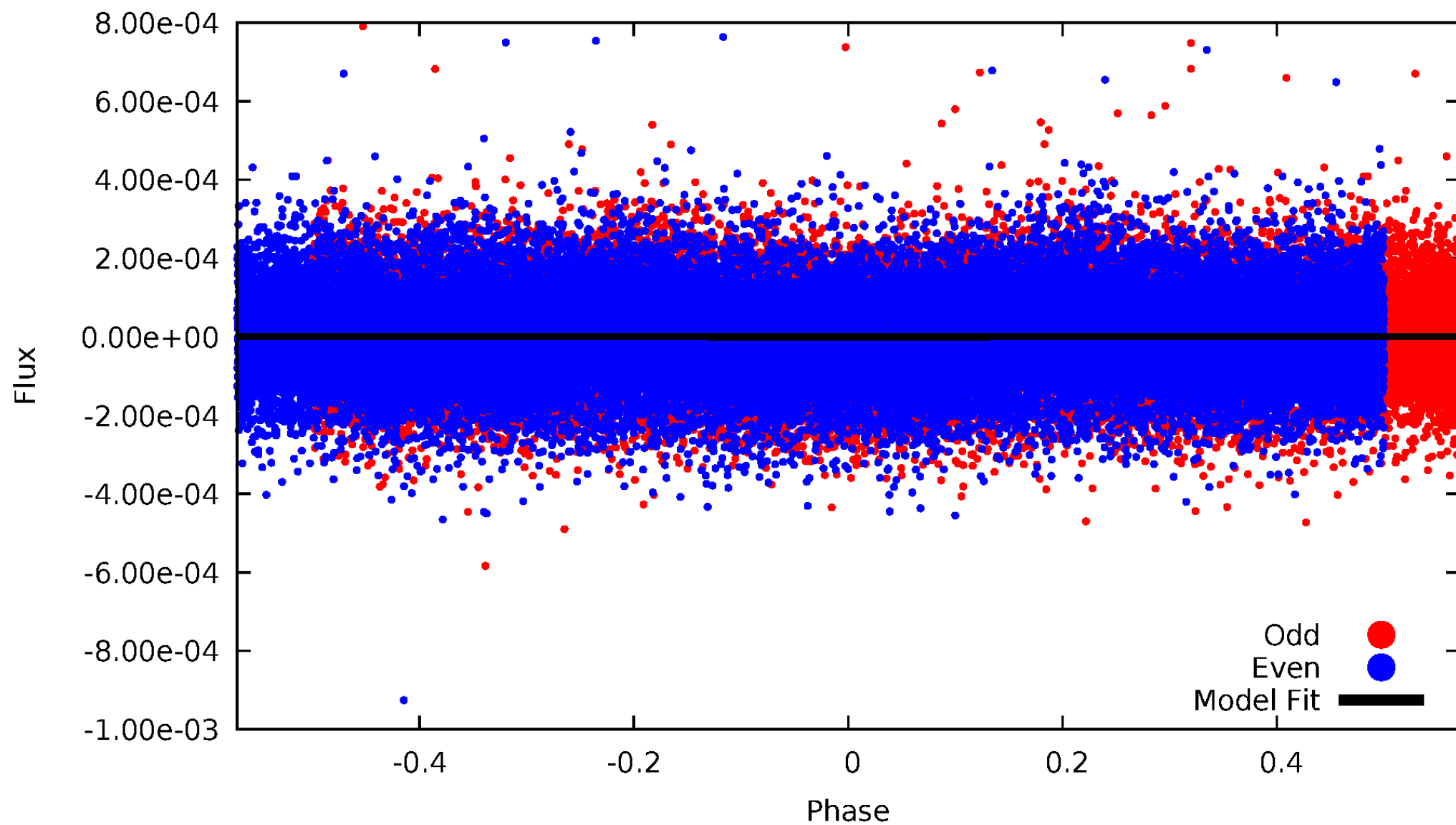


TCE 008553462-01



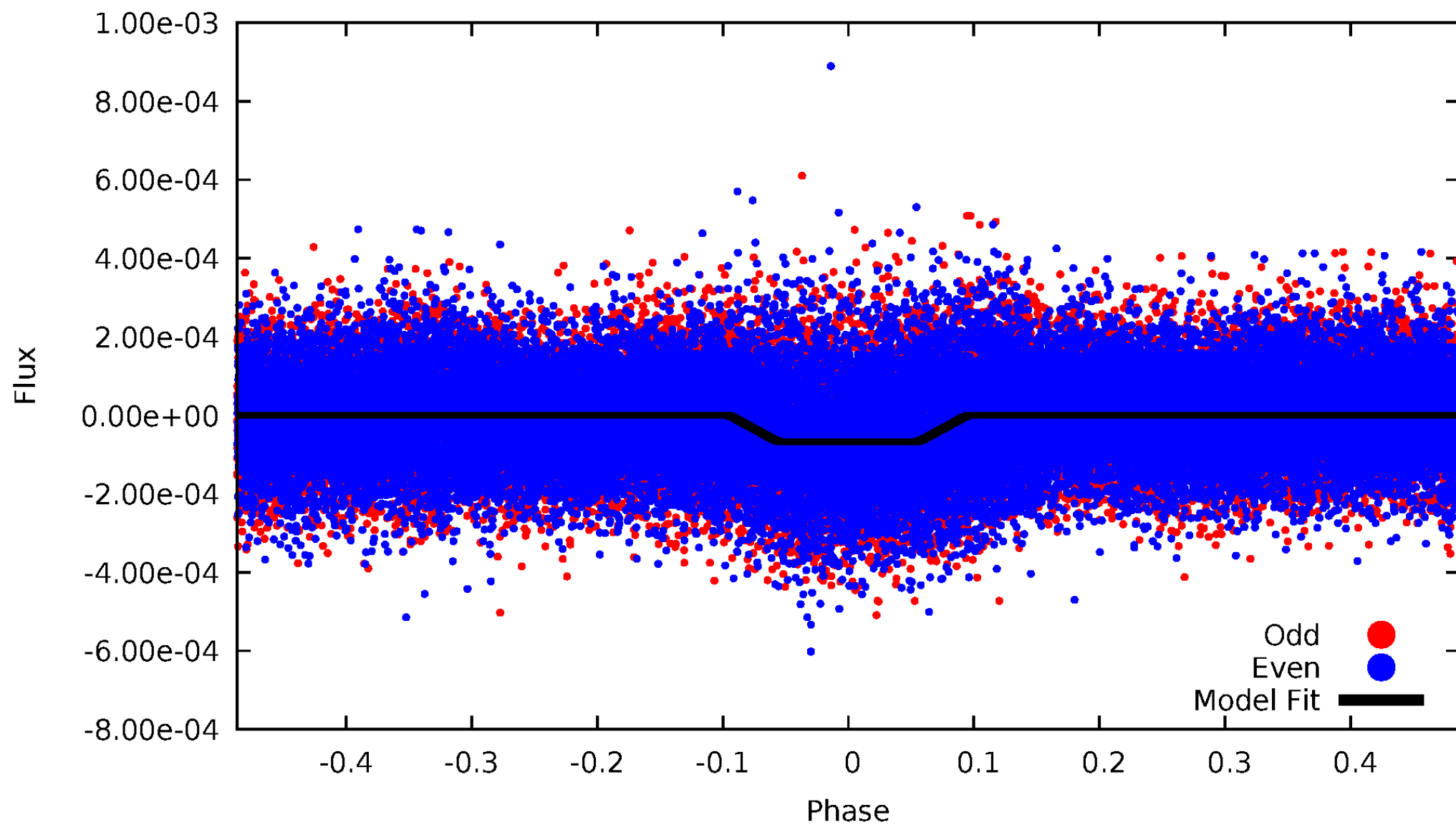
DV Odd/Even

TCE 008553462-01



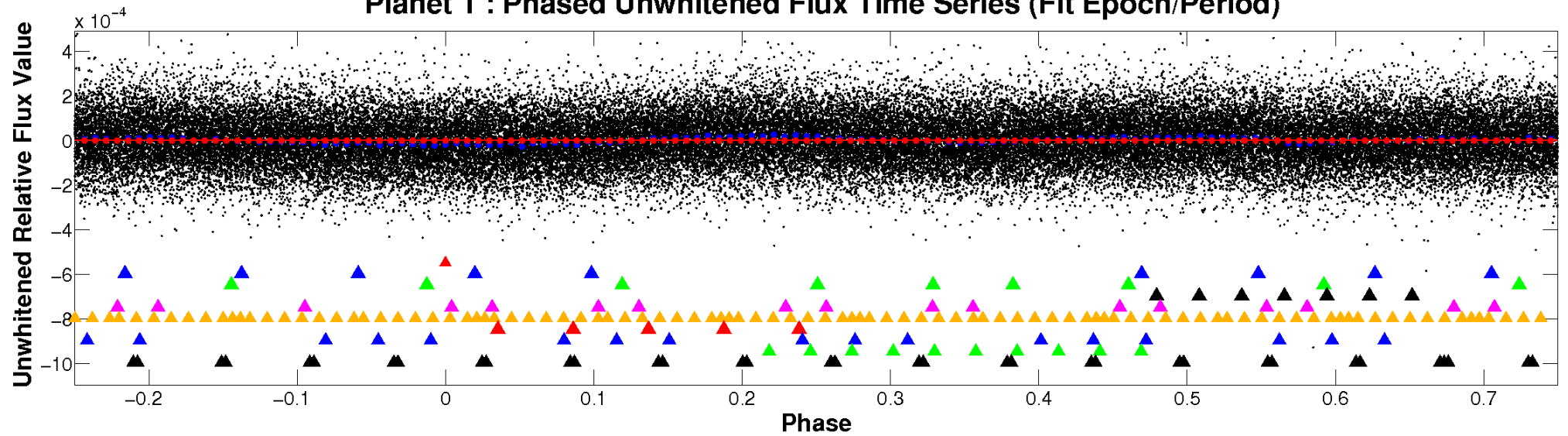
ALT Odd/Even

TCE 008553462-01

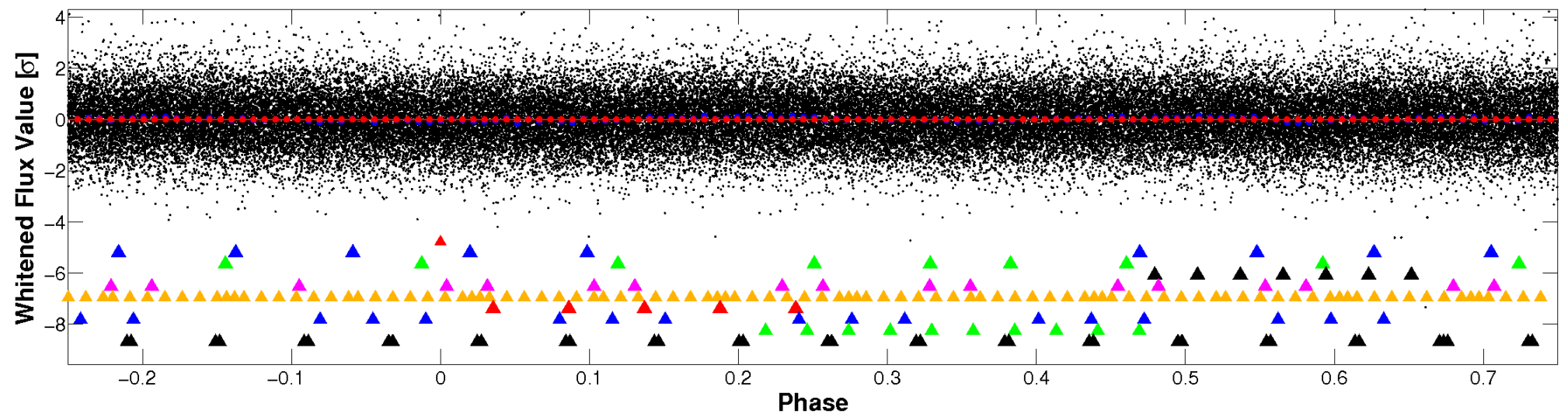


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

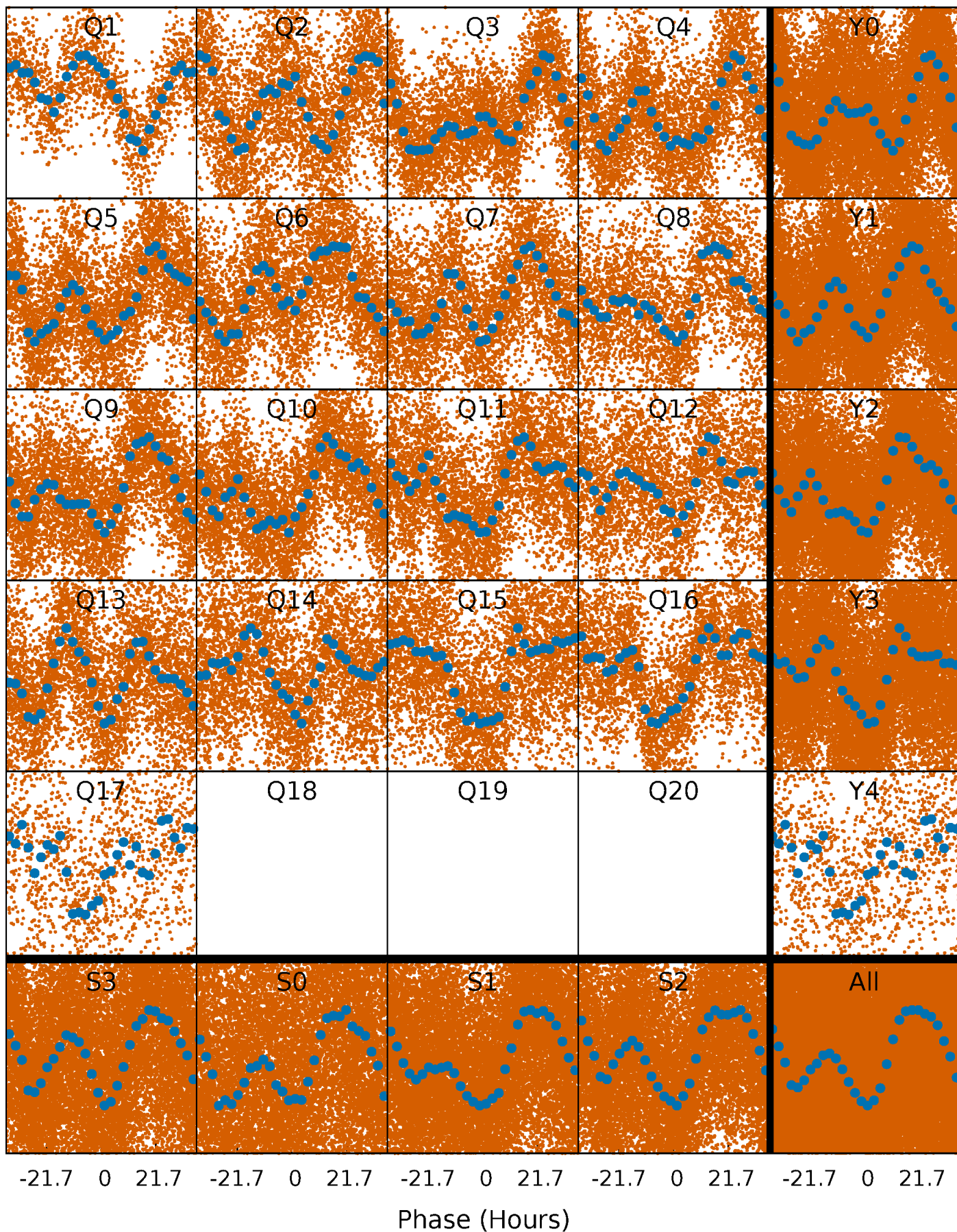


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



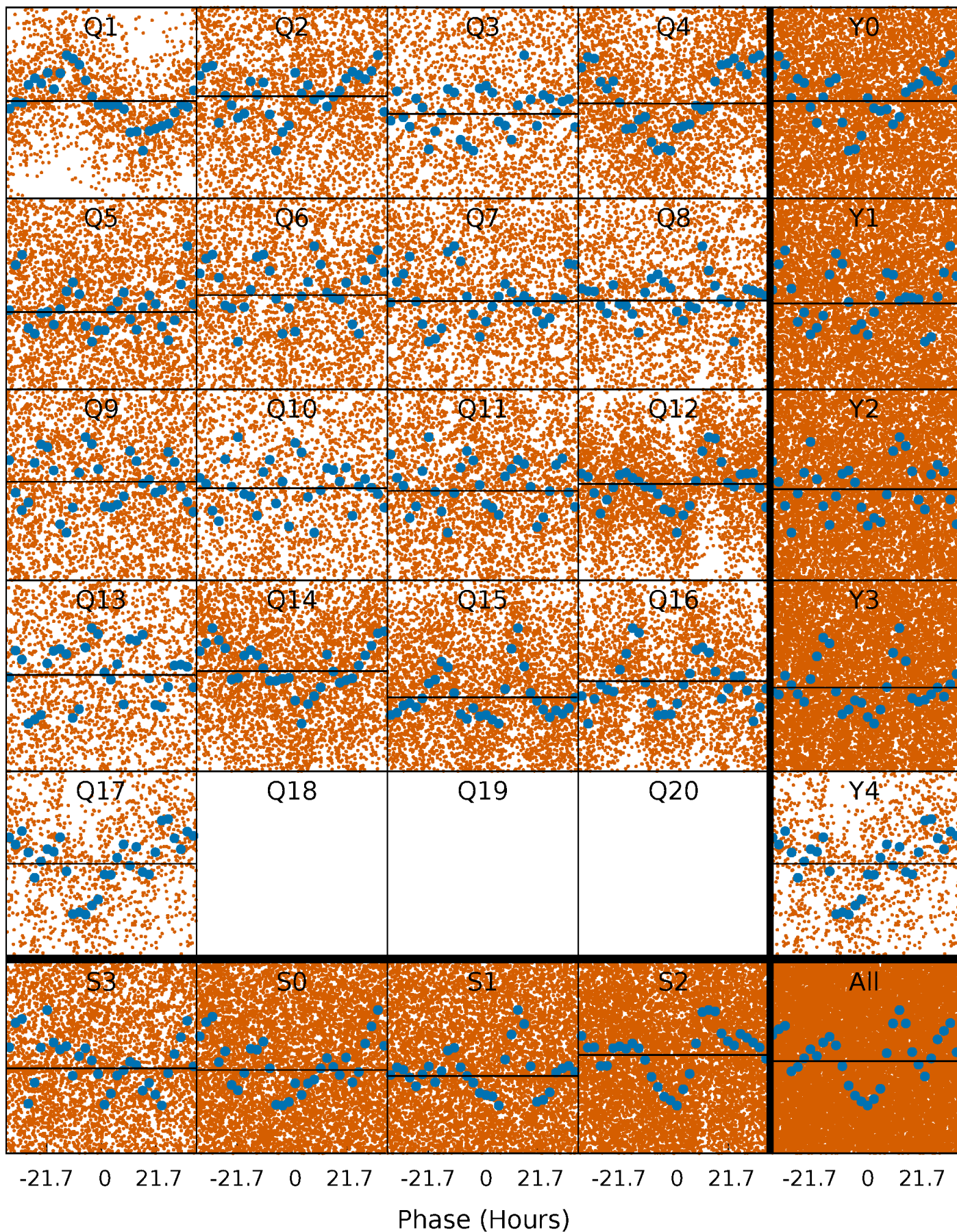
PDC Quarter-Phased Transit Curves

TCE 008553462-01 P= 2.768998 Days $T_0=134.441172$ (BKJD)



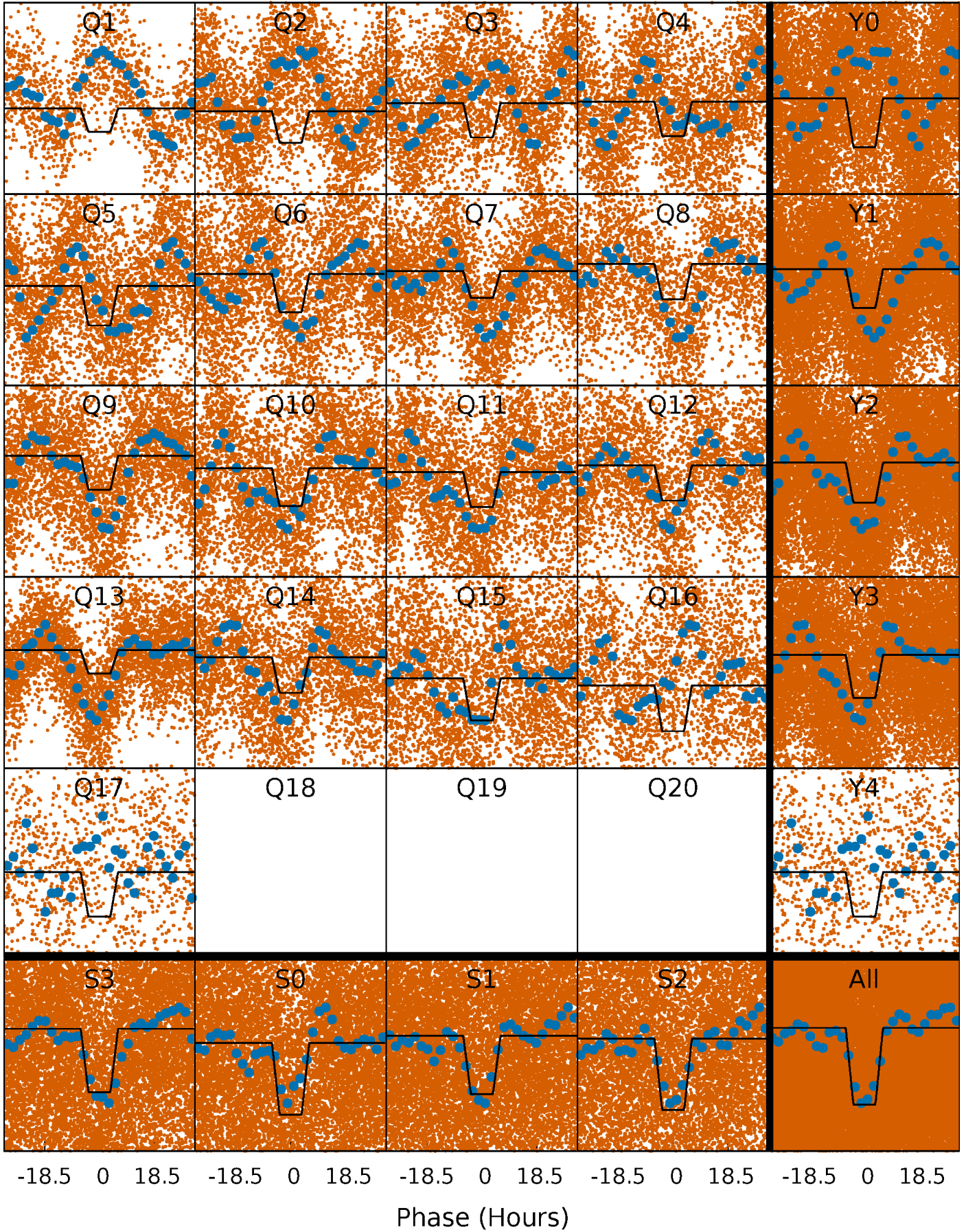
DV Quarter-Phased Transit Curves

TCE 008553462-01 P= 2.768998 Days $T_0=134.441172$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

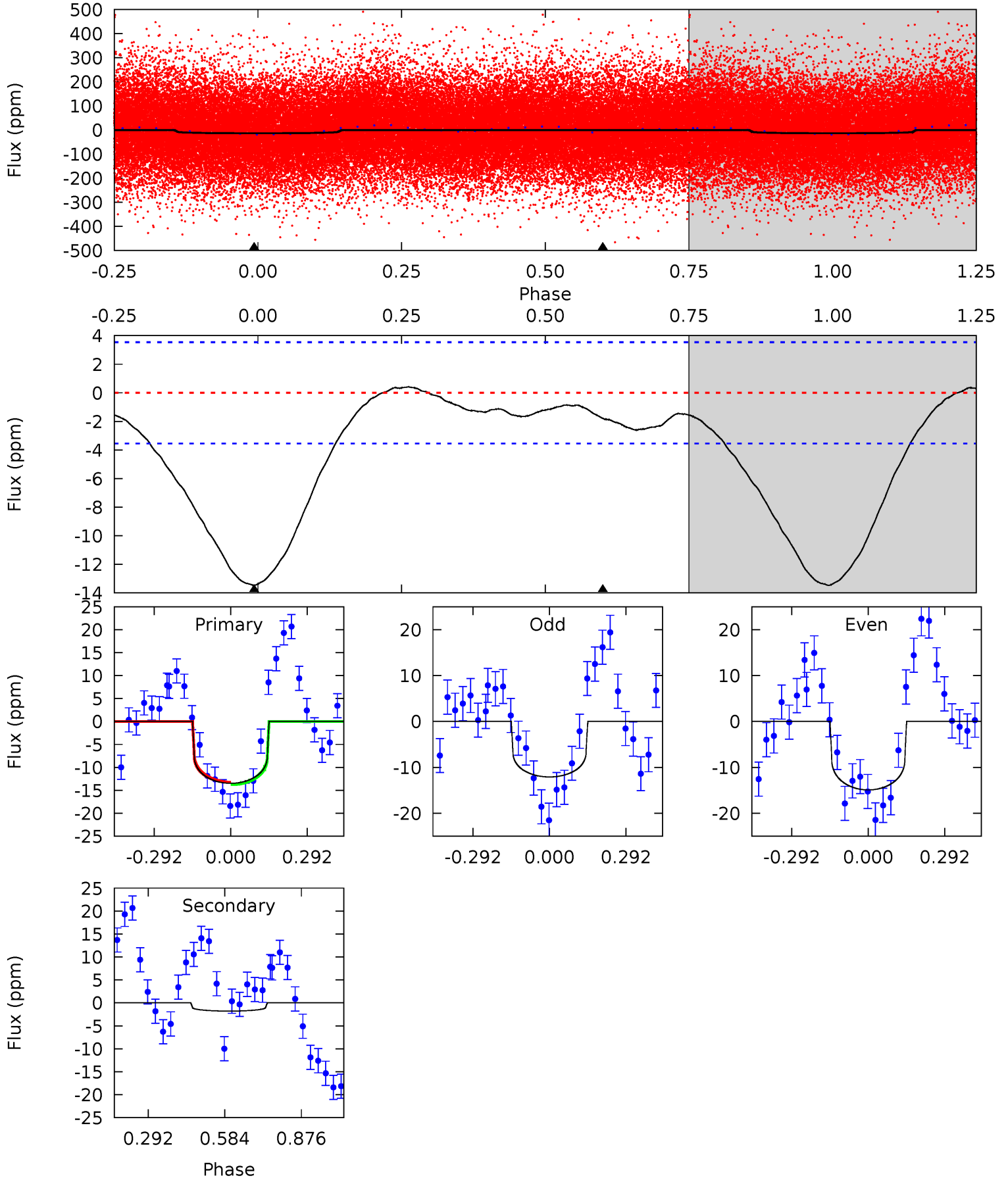
TCE 008553462-01 P= 2.770145 Days $T_0=134.154974$ (BKJD)



DV Model-Shift Uniqueness Test

008553462-01, P = 2.768998 Days, E = 128.903176 Days

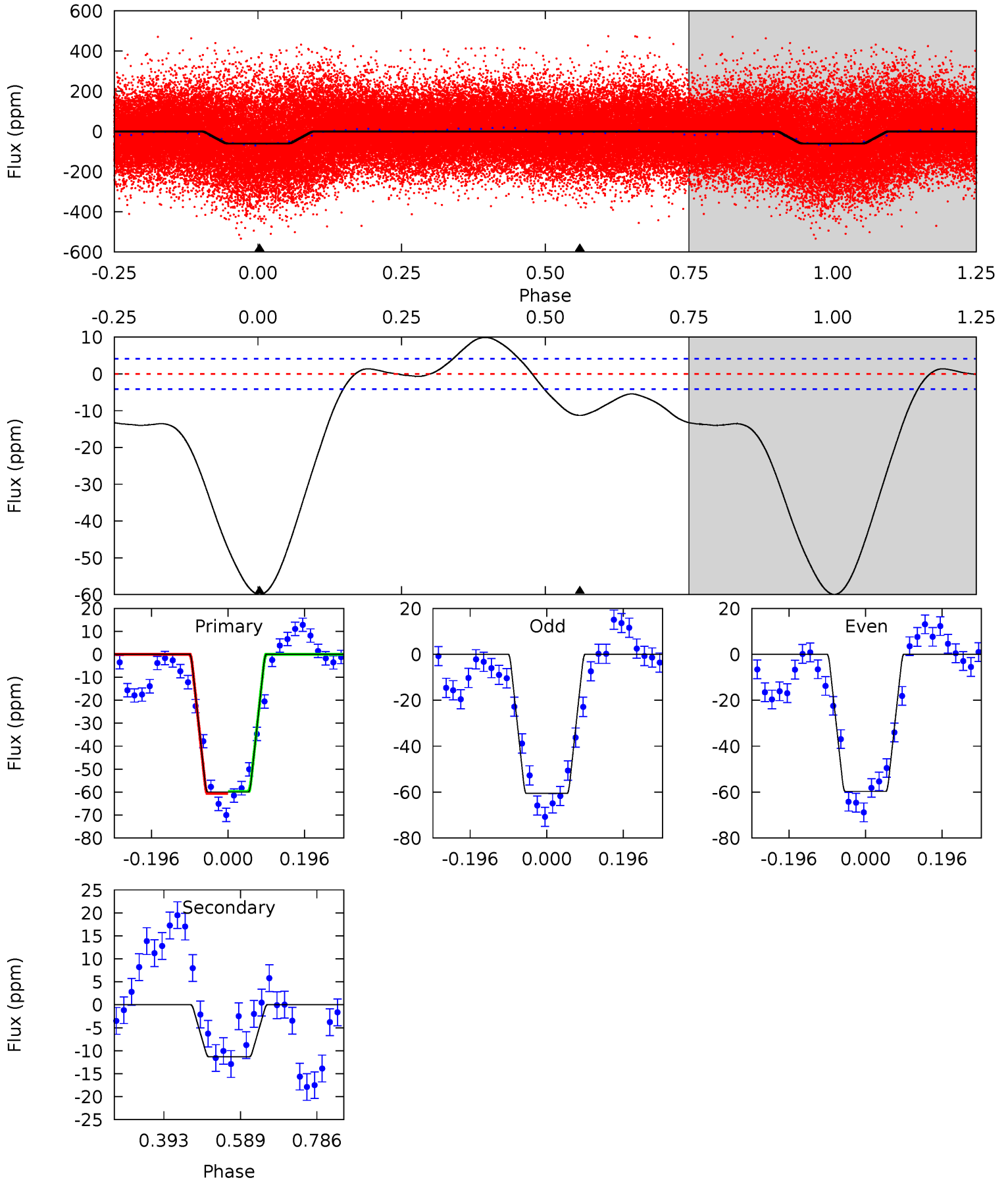
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
16.5	2.19	0	0	4.33	1.05	0.51	16.5	16.5	2.19	2.19	1.75	1.01	0.03	0.32



Alt Model-Shift Uniqueness Test

008553462-01, P = 2.770145 Days, E = 131.384829 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
64.5	12.2	0	0	4.42	1.29	7.21	64.5	64.5	12.2	12.2	0.50	0.89	0.14	0.53



Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-01 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-2 ± 1	$0.50^{+0.56}_{-0.34}$	2881^{+207}_{-190}	5112^{+5390}_{-1426}	$6.606^{+69.411}_{-5.206}$
Alt.	-11 ± 1	$1.65^{+0.80}_{-0.77}$	2857^{+206}_{-185}	4668^{+1495}_{-681}	$4.573^{+11.244}_{-2.471}$

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

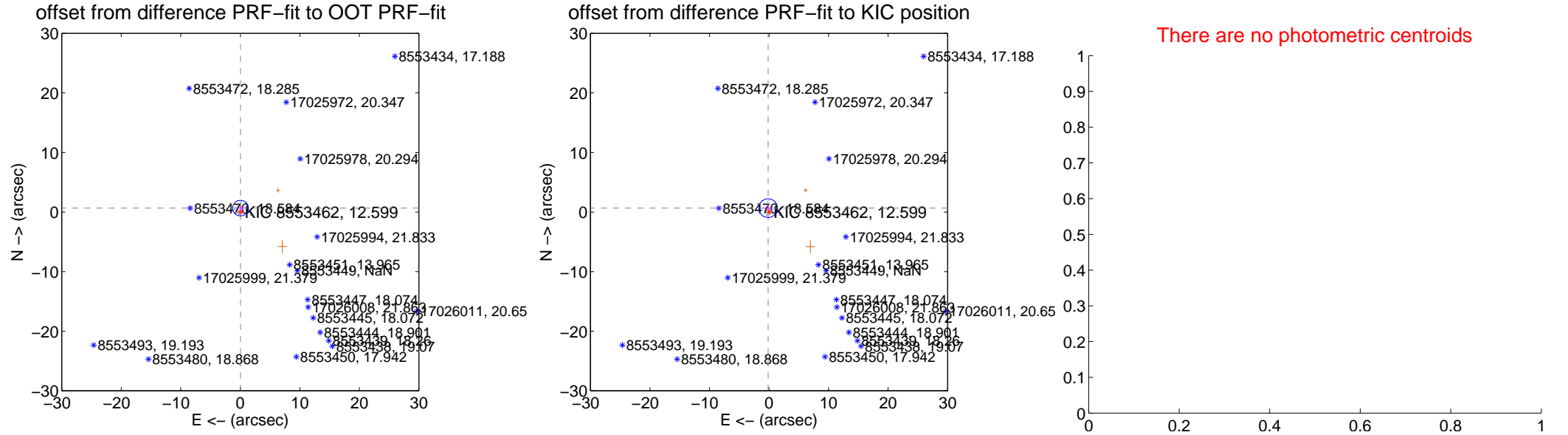
DV Centroid Data

Supplemental centroid analysis for 008553462-01. Kepler magnitude: 12.60. Transit SNR 0.03

There are 13 quarters with good PRF difference image offsets

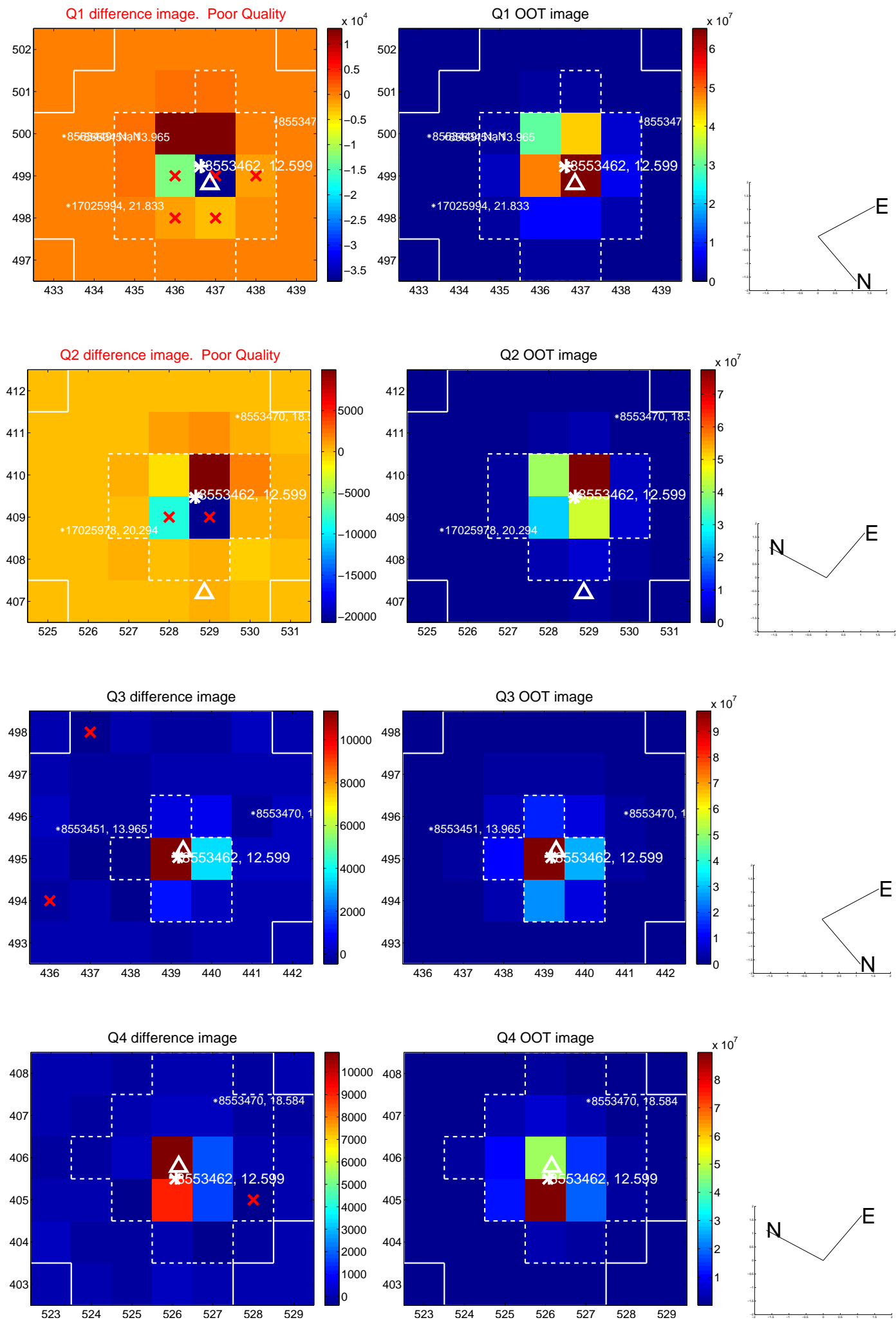
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.663 ± 0.437	1.52	-0.029 ± 0.545	0.663 ± 0.445
PRF-fit source offset from KIC position	0.670 ± 0.523	1.28	0.147 ± 0.584	0.654 ± 0.477
photometric centroid source offset	—	—	—	—

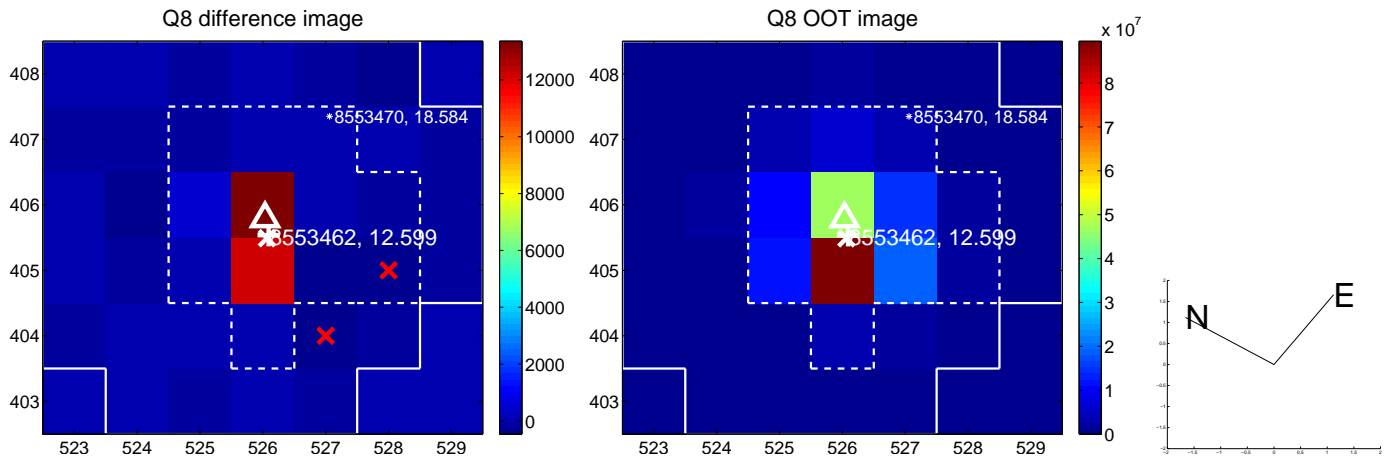
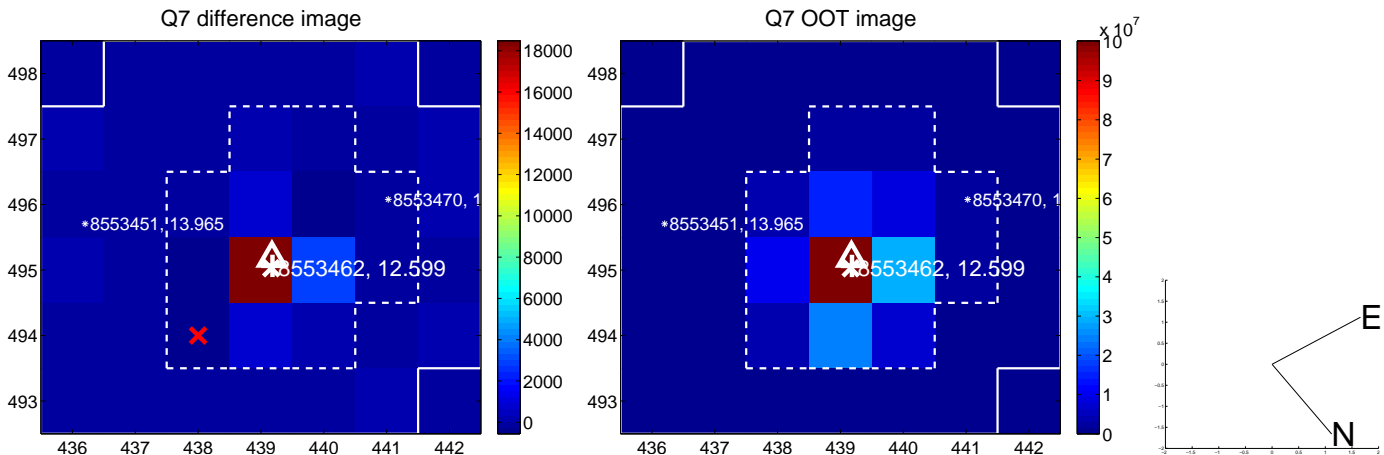
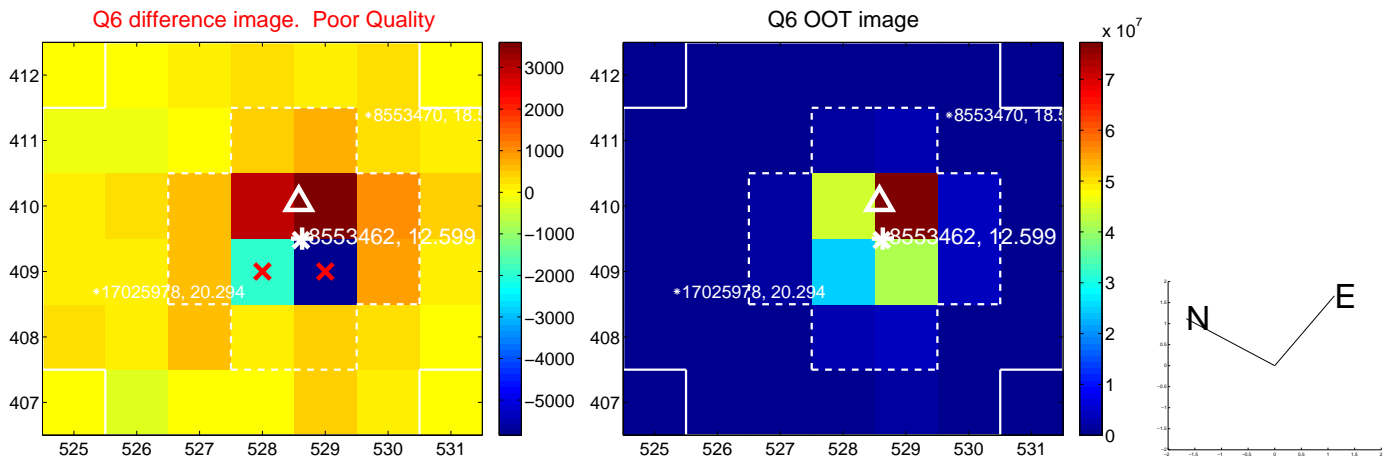
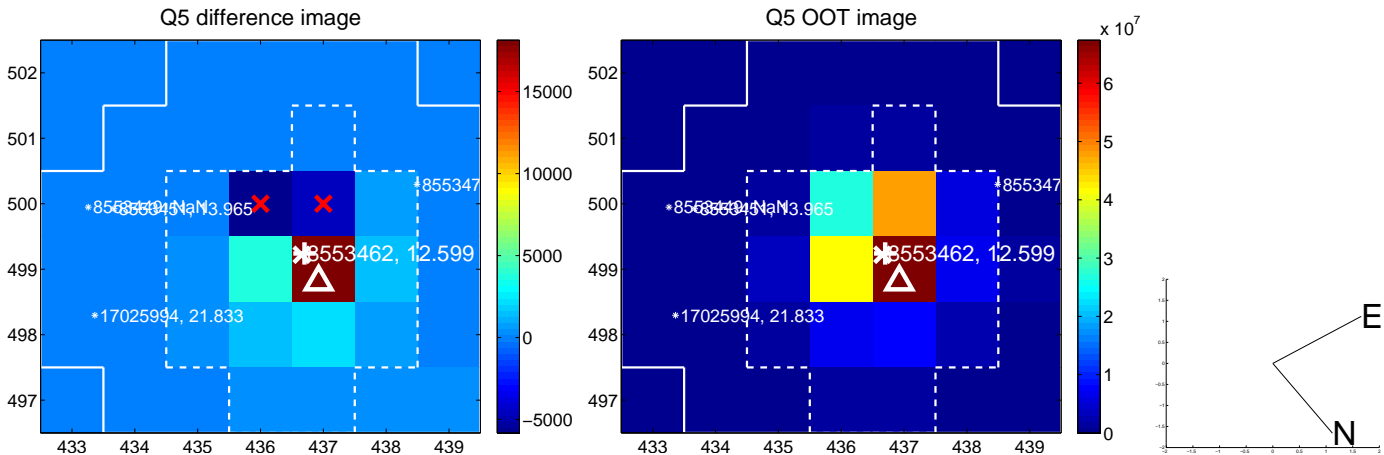


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

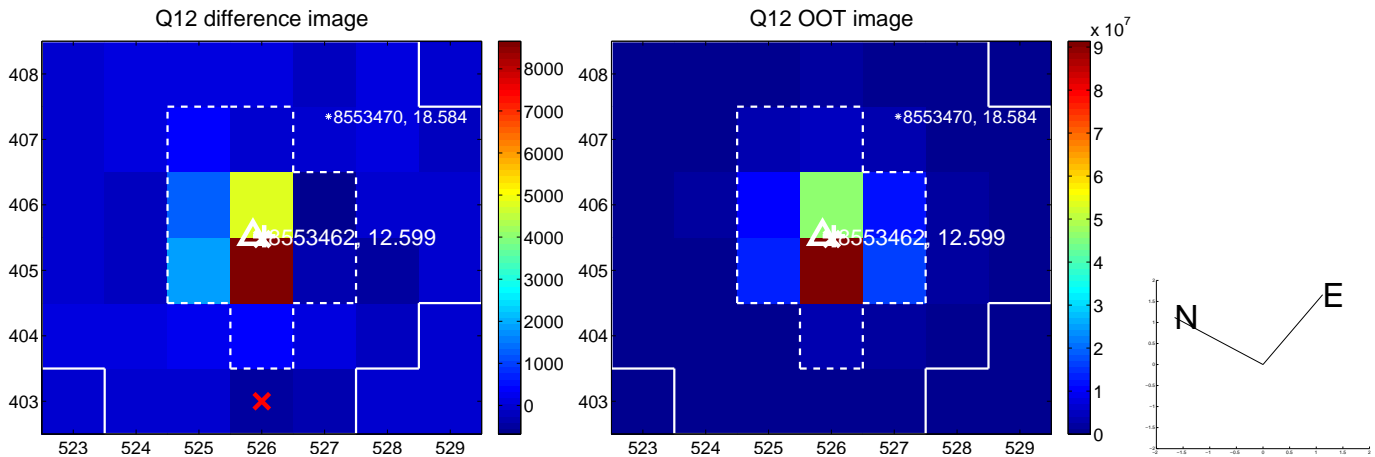
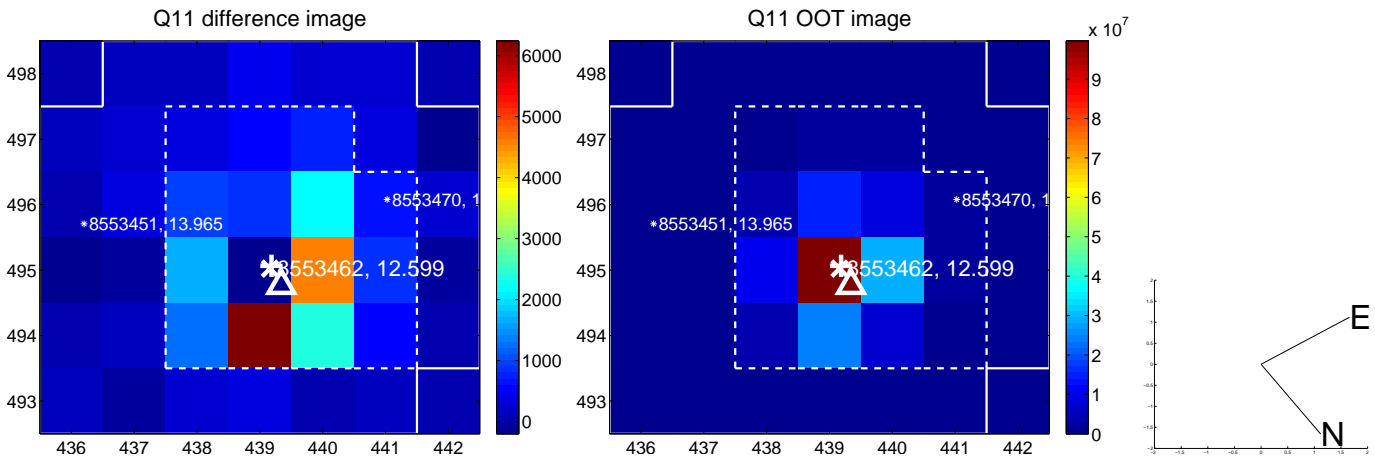
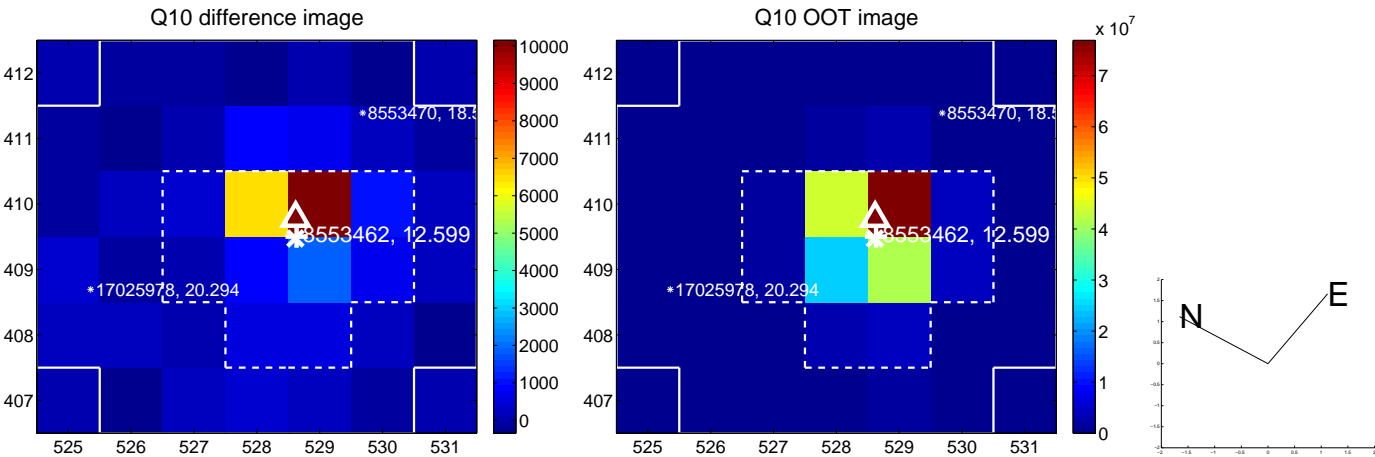
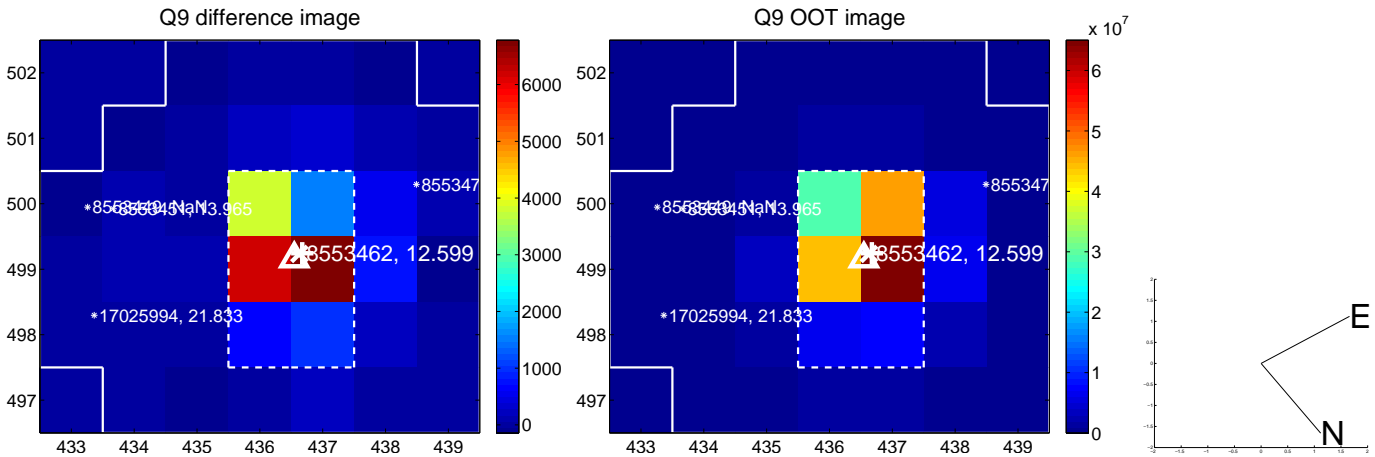
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



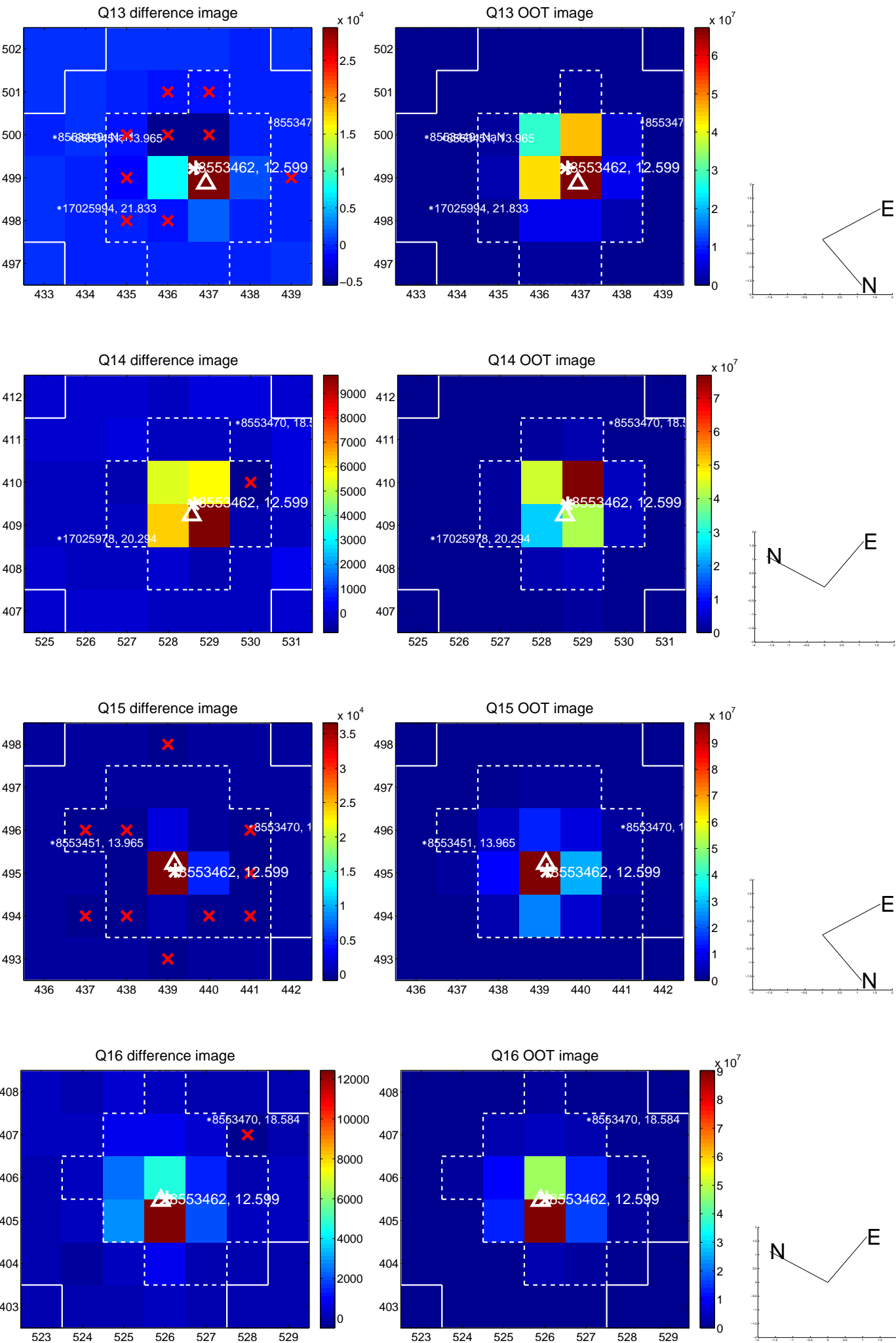
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



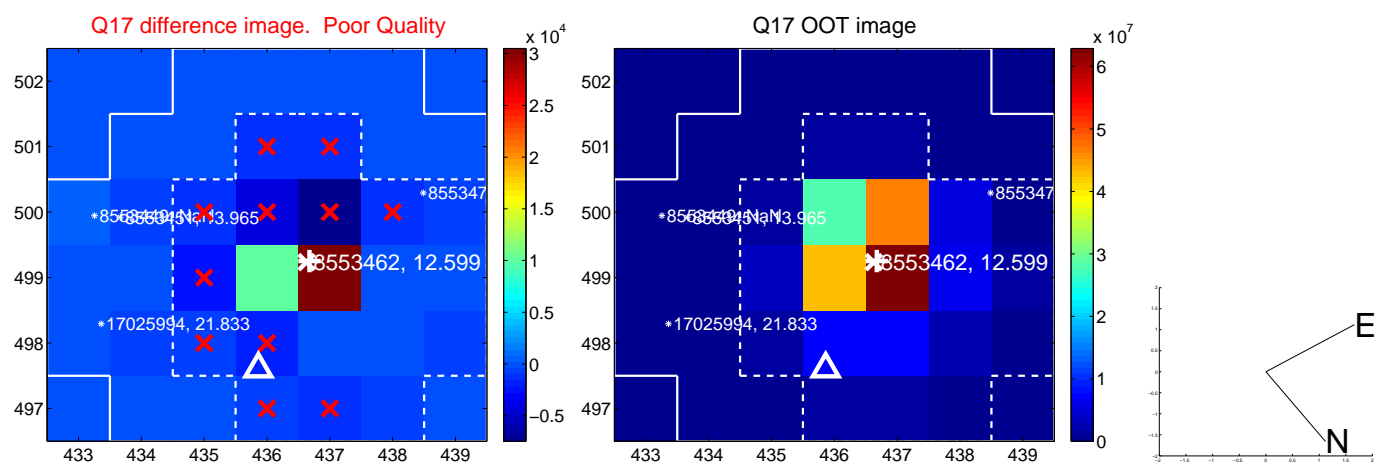
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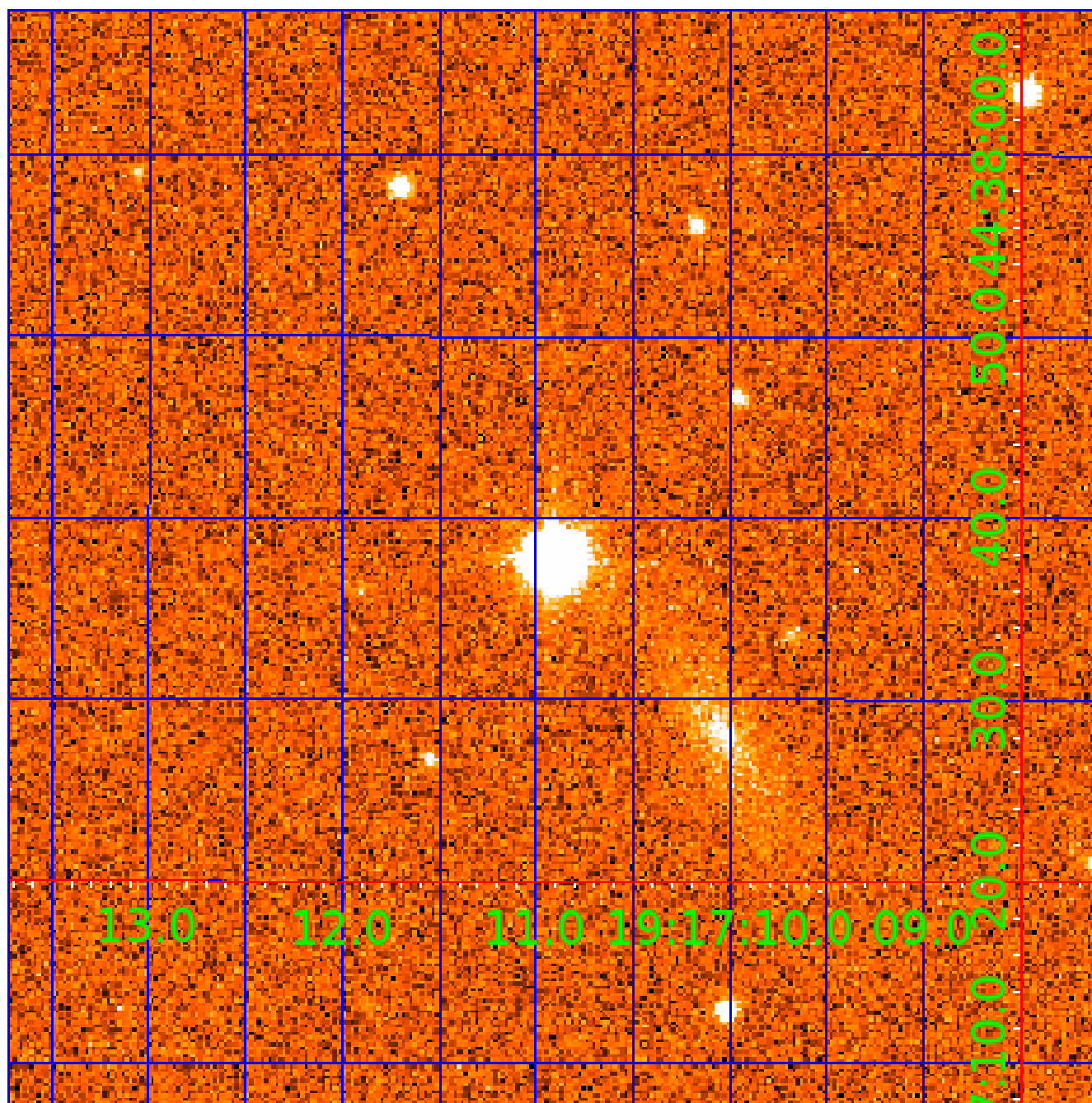


folded centroid time series figure for this object.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

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008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

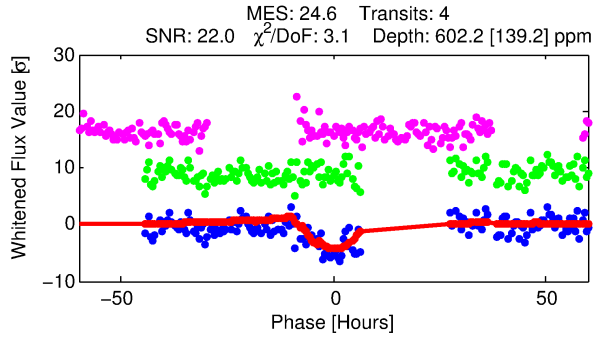
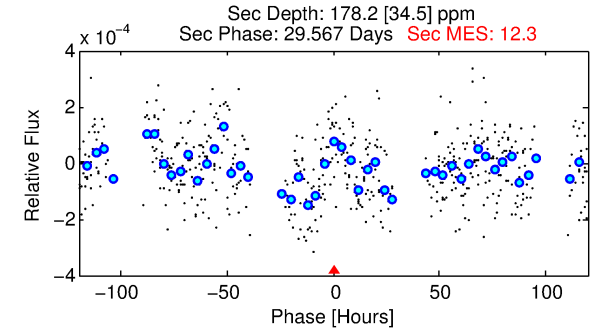
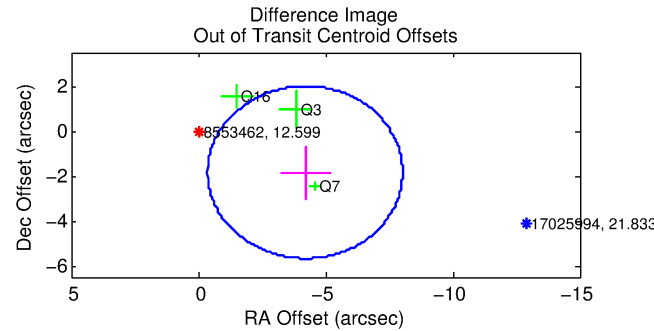
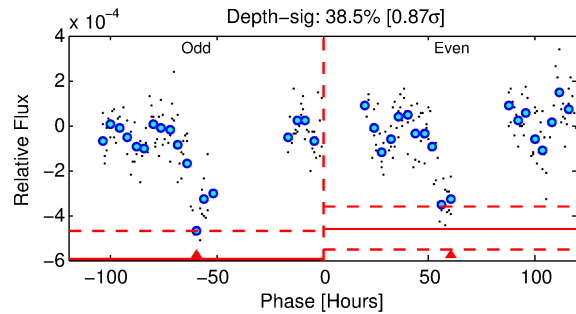
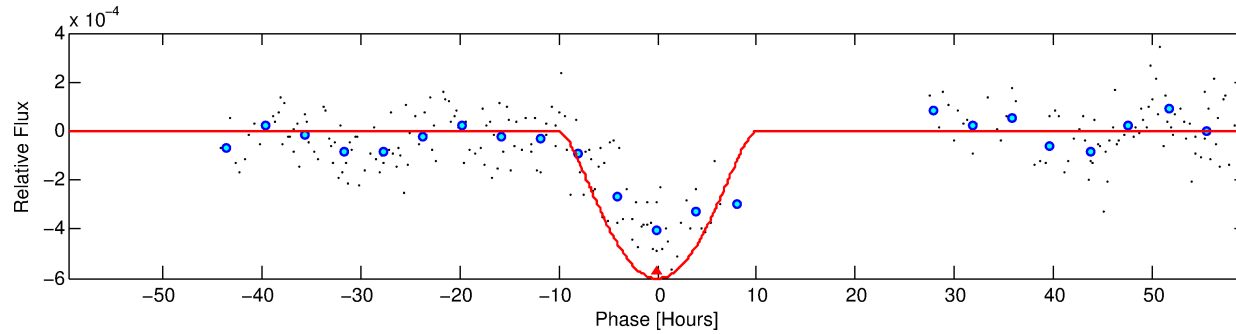
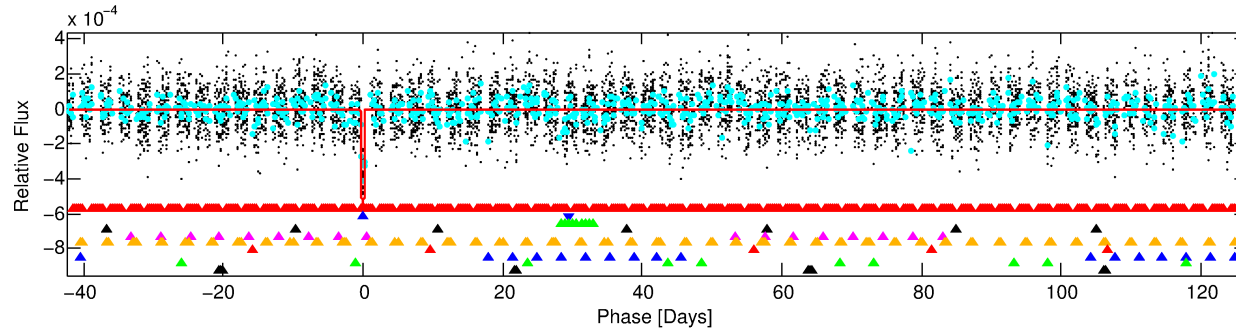
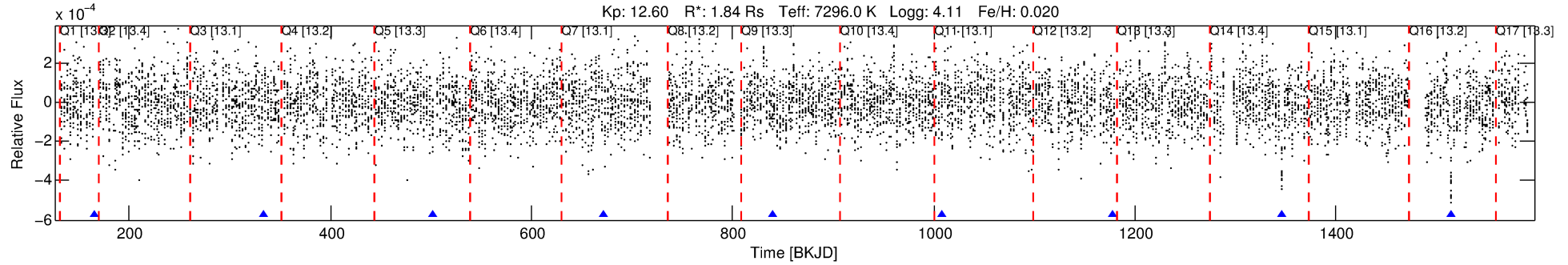
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-02

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 2 of 10 Period: 168.691 d



DV Fit Results:

Period = 168.69113 [0.03729] d
Epoch = 165.1728 [0.2732] BKJD
Rp/R* = 0.0422 [0.0747]
a/R* = 19.07 [9.45]
b = 1.00 [0.10]
Seff = 17.74 [6.93]
Teq = 523 [51] K
Rp = 8.50 [15.24] Re
a = 0.6976 [0.1724] AU
Ag = 660.68 [2350.80] [0.28 σ]
Teff = 4102 [3636] K [0.98 σ]

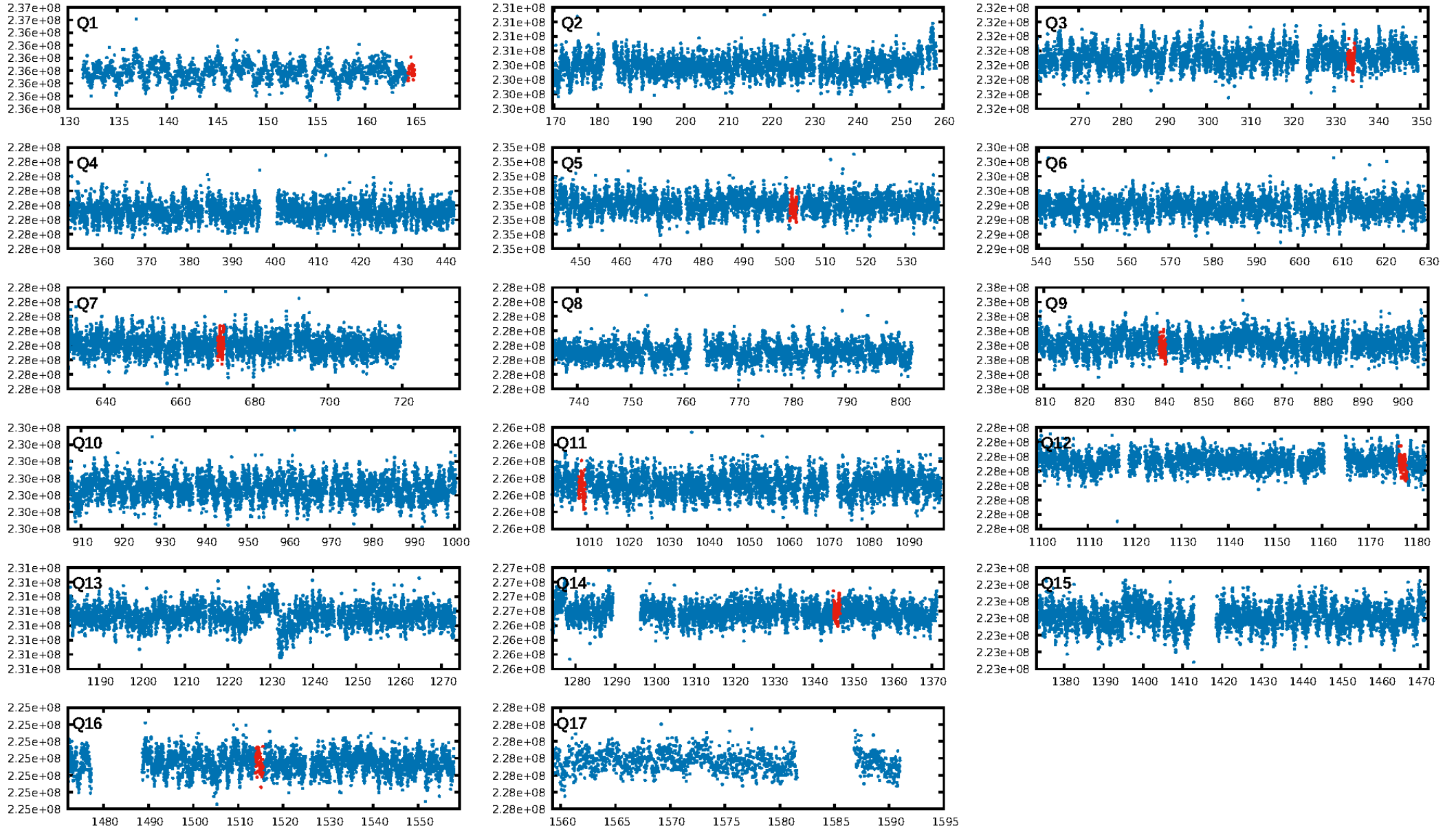
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [29.07 σ]
LongPeriod-sig: 36.9% [0.48 σ]
ModelChiSquare2-sig: 0.0%
ModelChiSquareGof-sig: 83.5%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.1827
Centroid-sig: 3.6%
Centroid-so: 0.414 arcsec [2.09 σ]
OotOffset-rm: 4.584 arcsec [3.59 σ]
KicOffset-rm: 4.479 arcsec [4.66 σ]
OotOffset-st: 0/2/1/0 [3]
KicOffset-st: 0/2/1/0 [3]
DiffImageQuality-fgm: 0.00 [0/3]
DiffImageOverlap-fno: 0.00 [0/6]

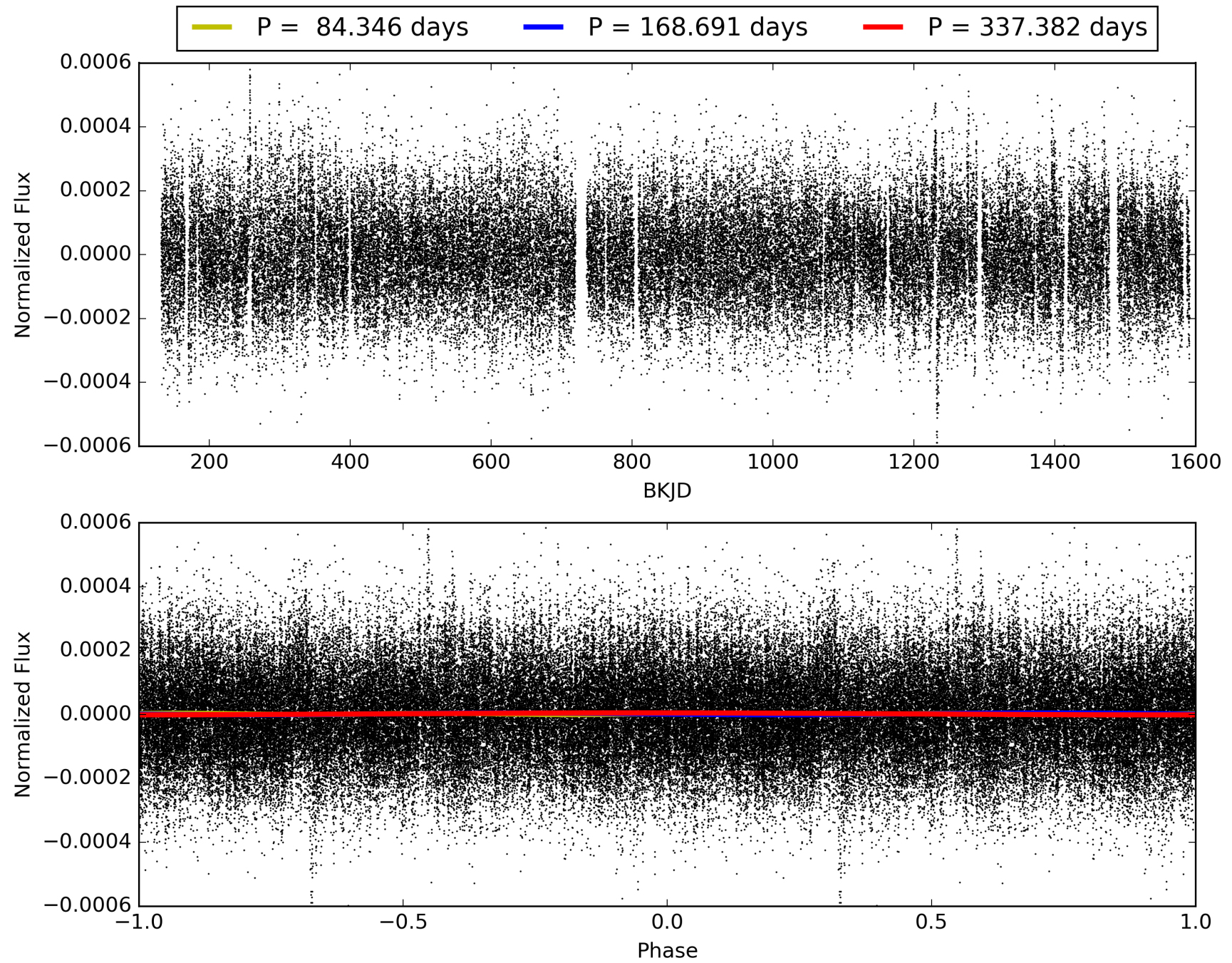
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:18:09 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008553462-02, PDC Light Curves

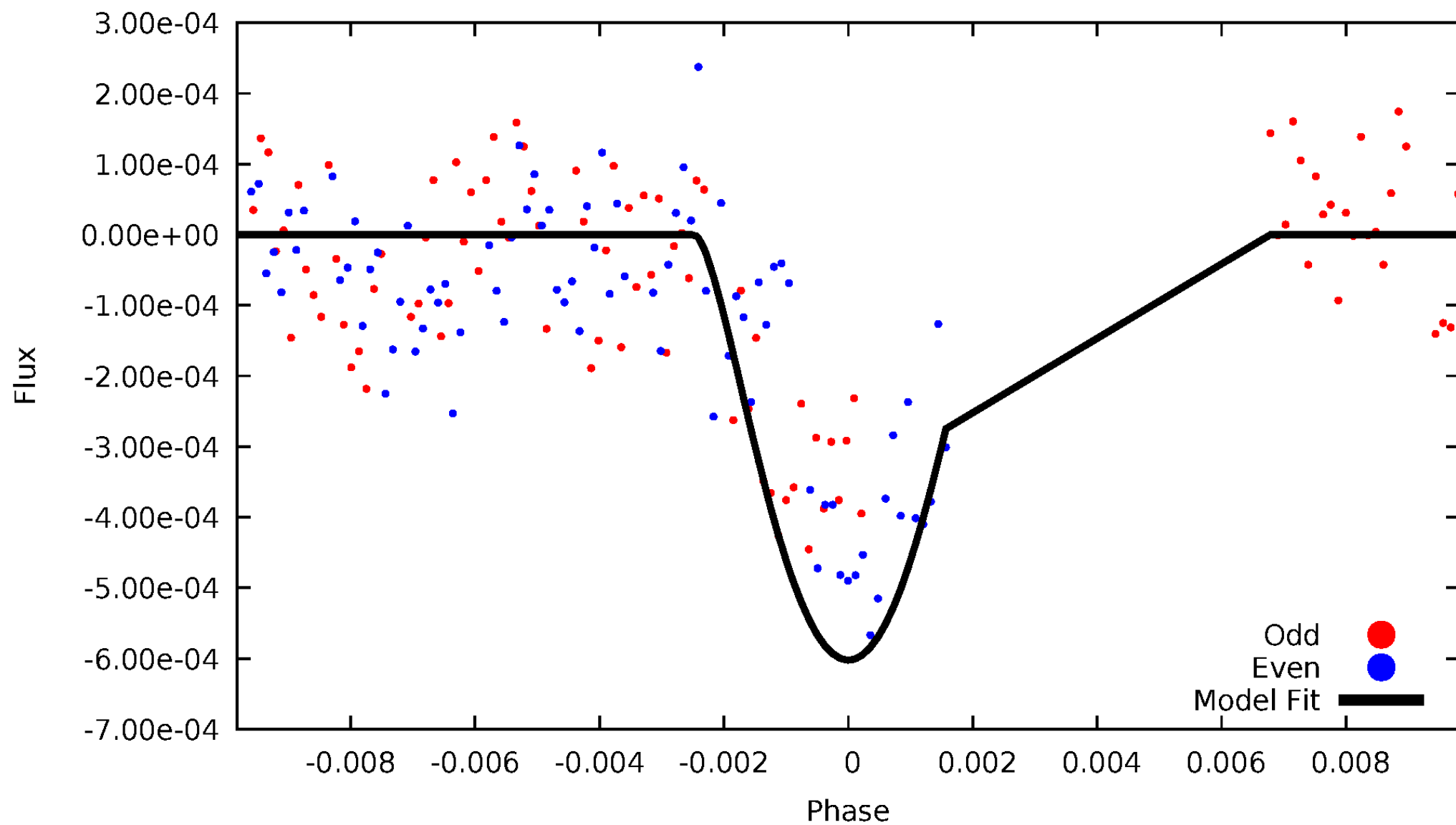


TCE 008553462-02



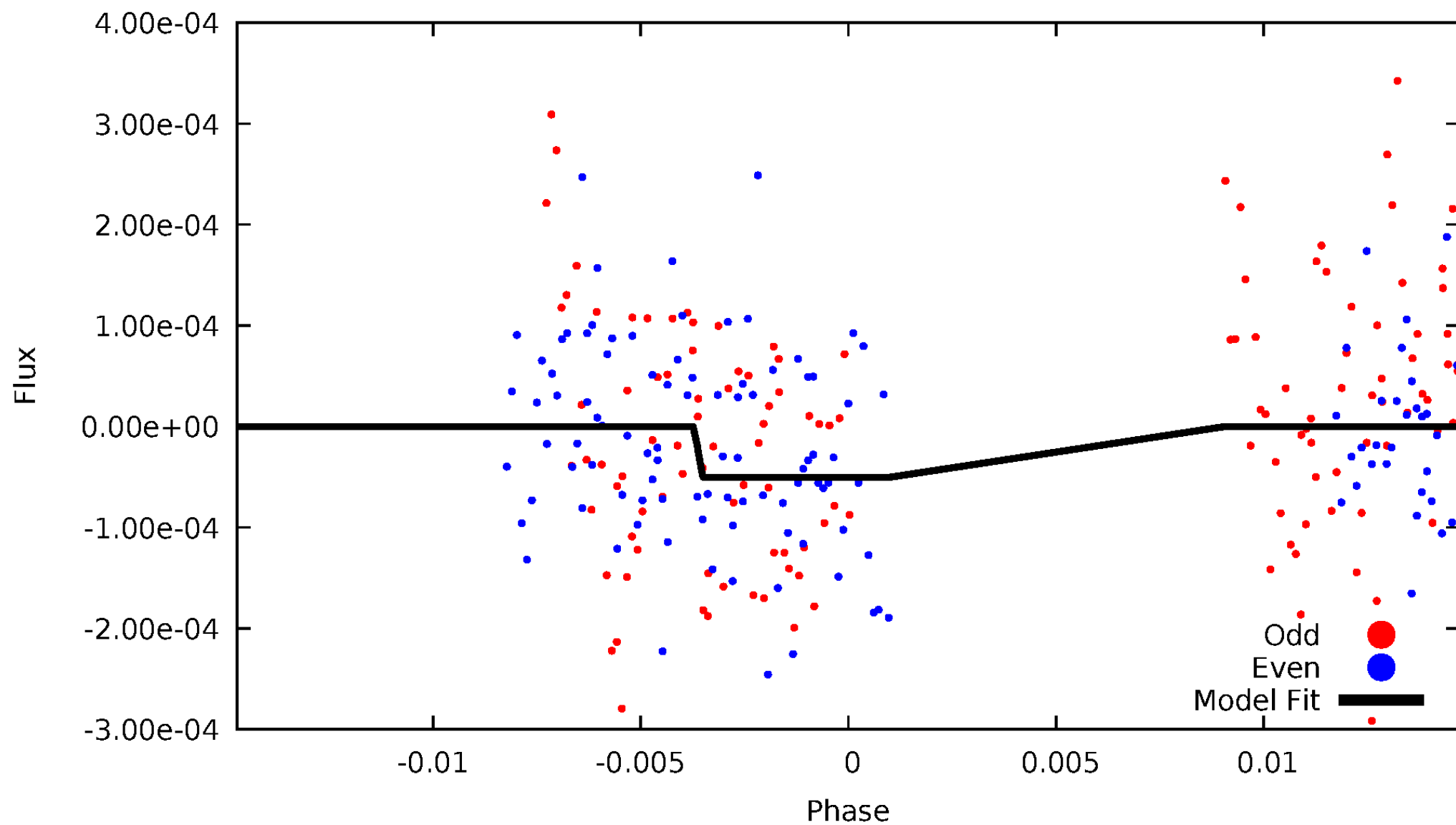
DV Odd/Even

TCE 008553462-02



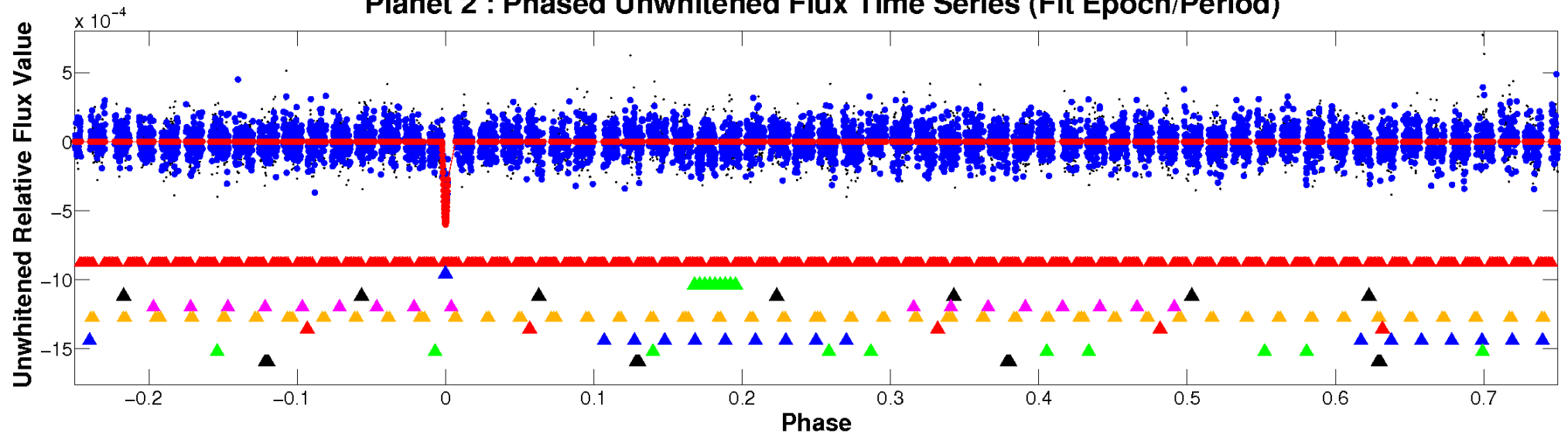
ALT Odd/Even

TCE 008553462-02

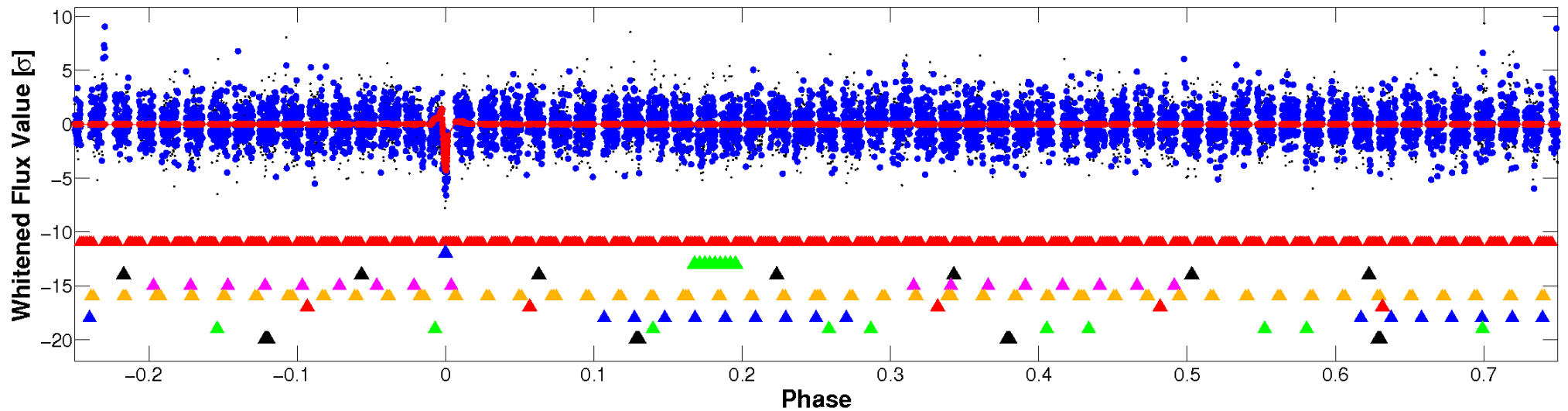


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



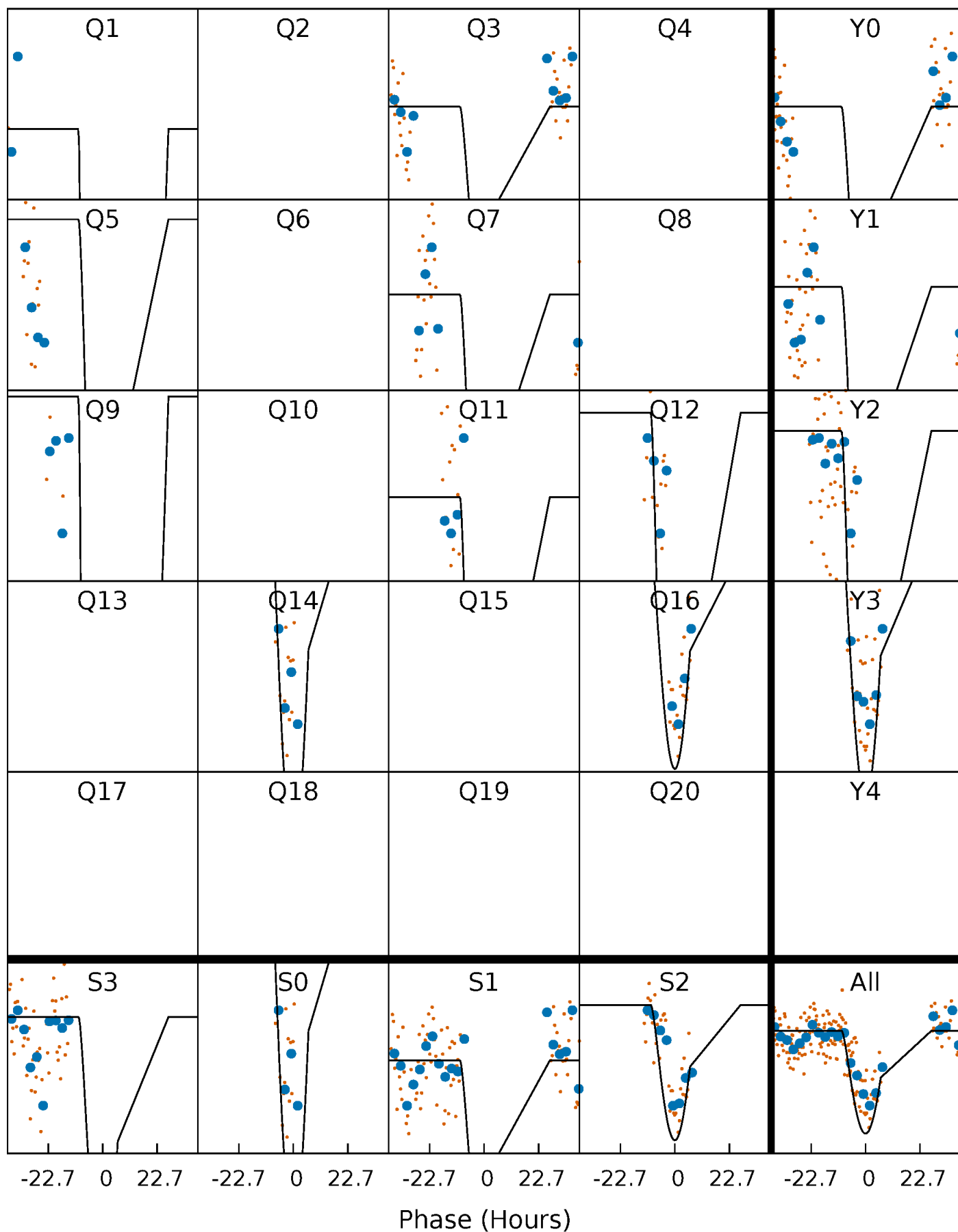
PDC Quarter-Phased Transit Curves

TCE 008553462-02 P=168.691133 Days $T_0=165.172770$ (BKJD)



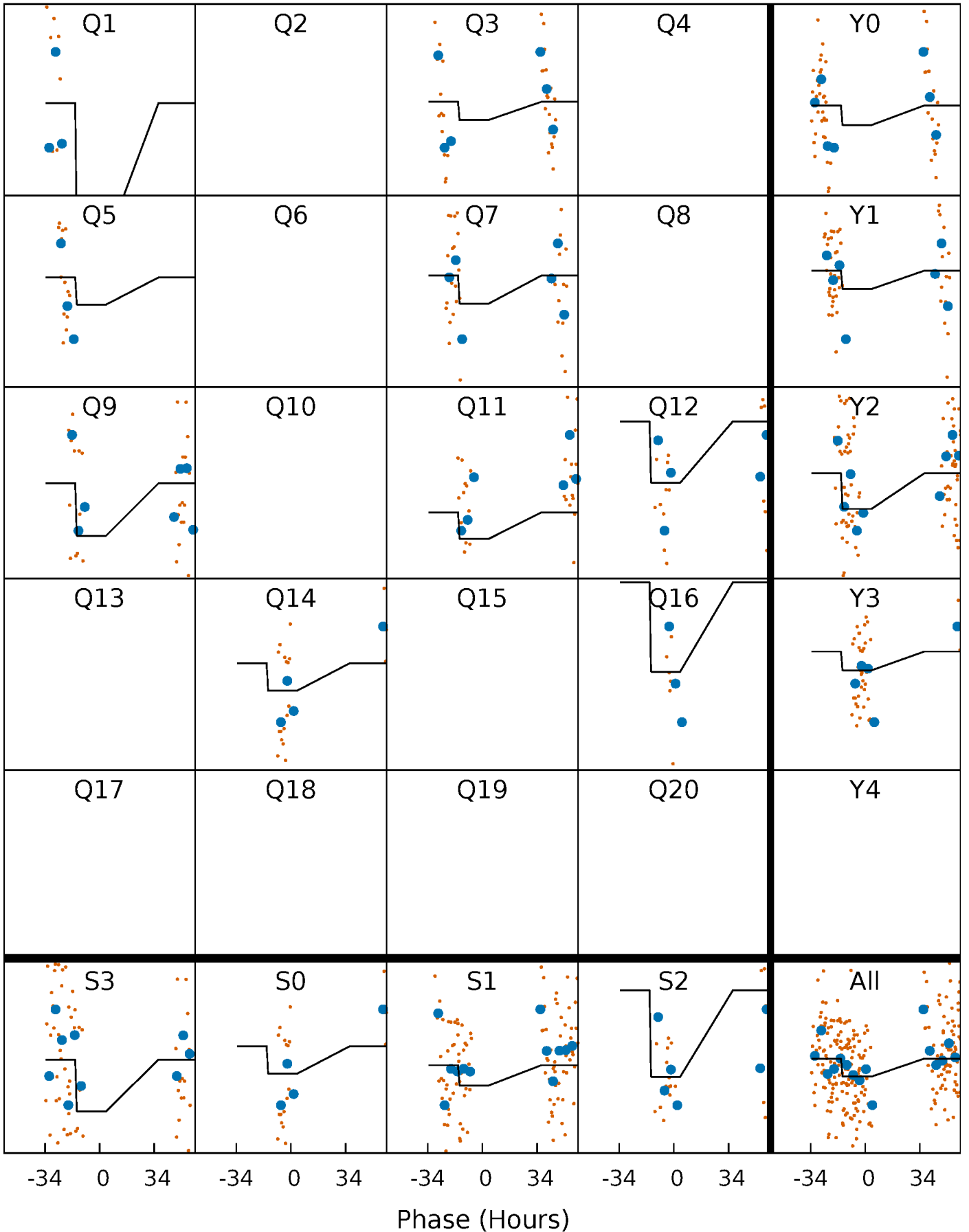
DV Quarter-Phased Transit Curves

TCE 008553462-02 P=168.691133 Days $T_0=165.172770$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

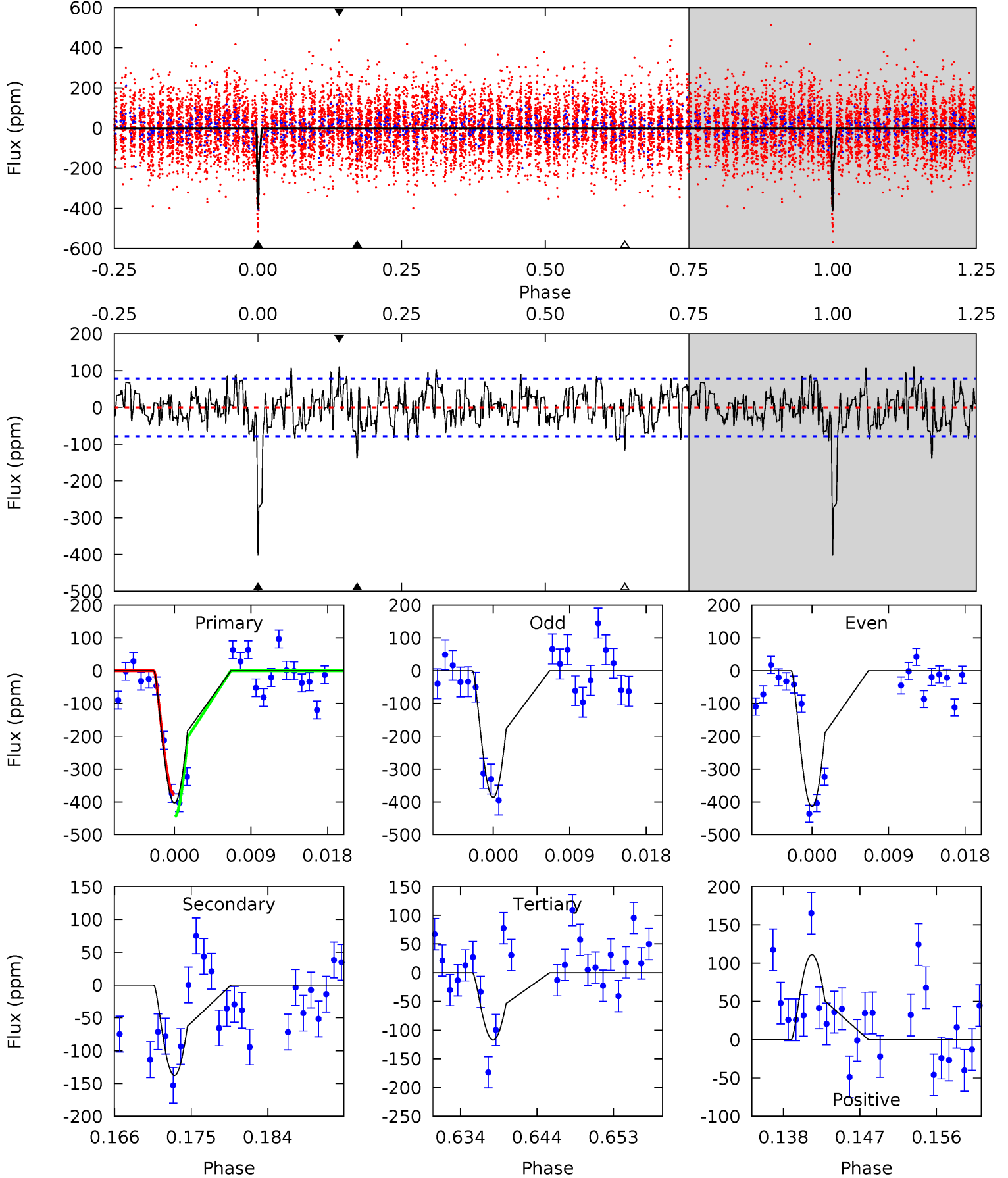
TCE 008553462-02 $P=168.760772$ Days $T_0=164.716215$ (BKJD)



DV Model-Shift Uniqueness Test

008553462-02, P = 168.691133 Days, E = 165.172770 Days

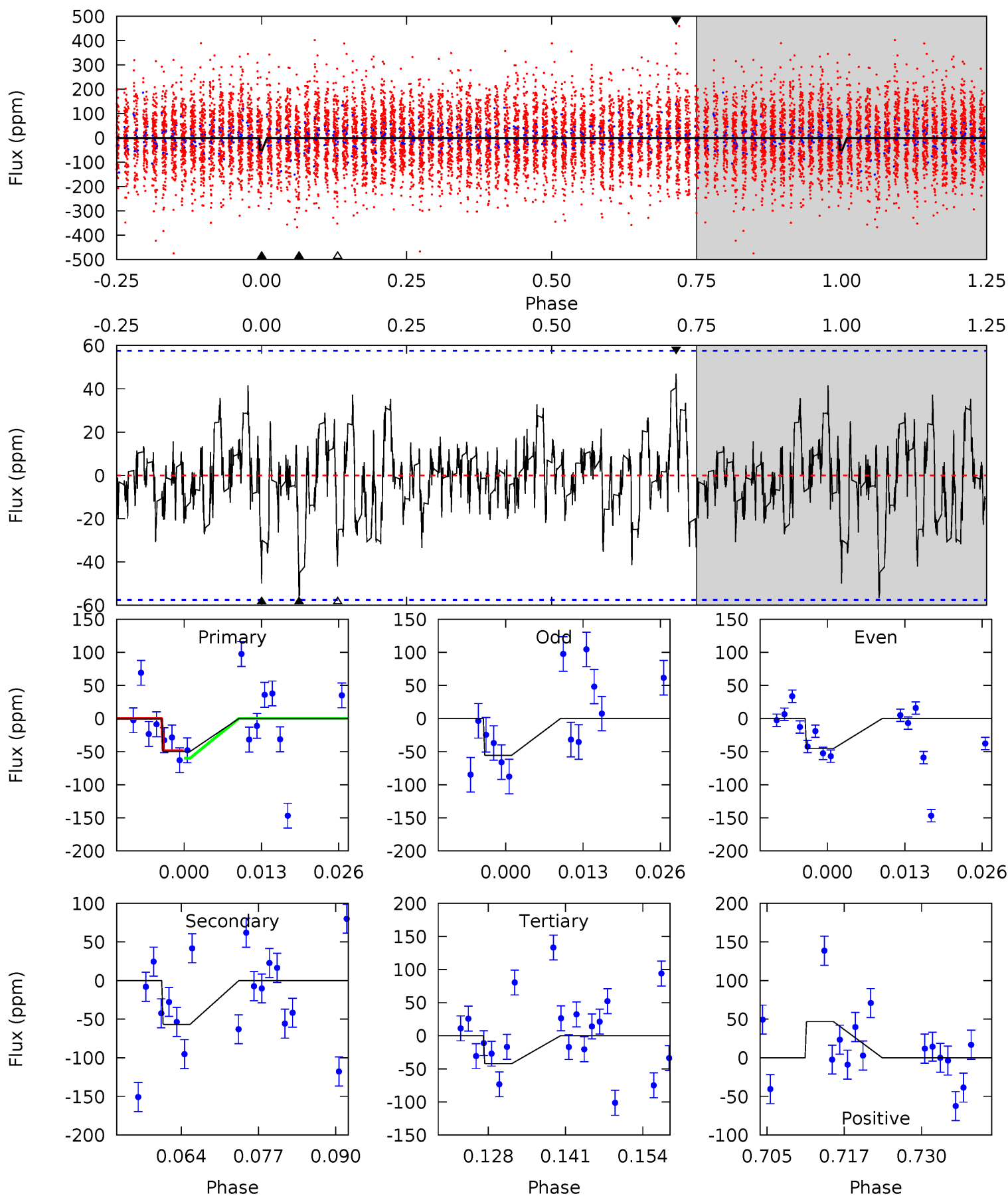
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
25.8	8.83	7.51	7.13	5.04	2.60	2.38	18.3	18.7	1.32	1.70	0.87	-1.03	0.22	1.96



Alt Model-Shift Uniqueness Test

008553462-02, P = 168.760772 Days, E = 164.716215 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
4.32	4.91	3.64	4.06	4.98	2.49	1.12	0.67	0.26	1.26	0.85	0.43	1.21	0.45	0.32



Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-02 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-138 ± 16	$14.72^{+12.74}_{-9.78}$	729^{+54}_{-44}	3404^{+1629}_{-560}	168^{+1431}_{-120}
Alt.	-57 ± 12	$11.01^{+11.78}_{-7.25}$	729^{+57}_{-45}	3208^{+1596}_{-580}	121^{+962}_{-93}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

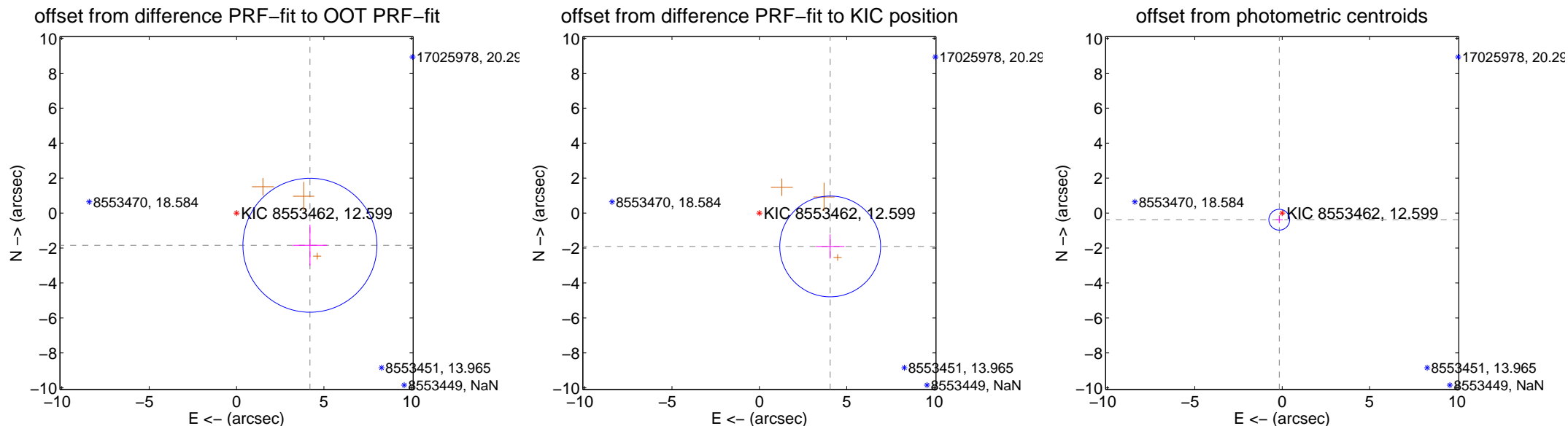
DV Centroid Data

Supplemental centroid analysis for 008553462-02. Kepler magnitude: 12.60. Transit SNR 22.00

There are 0 quarters with good PRF difference image offsets

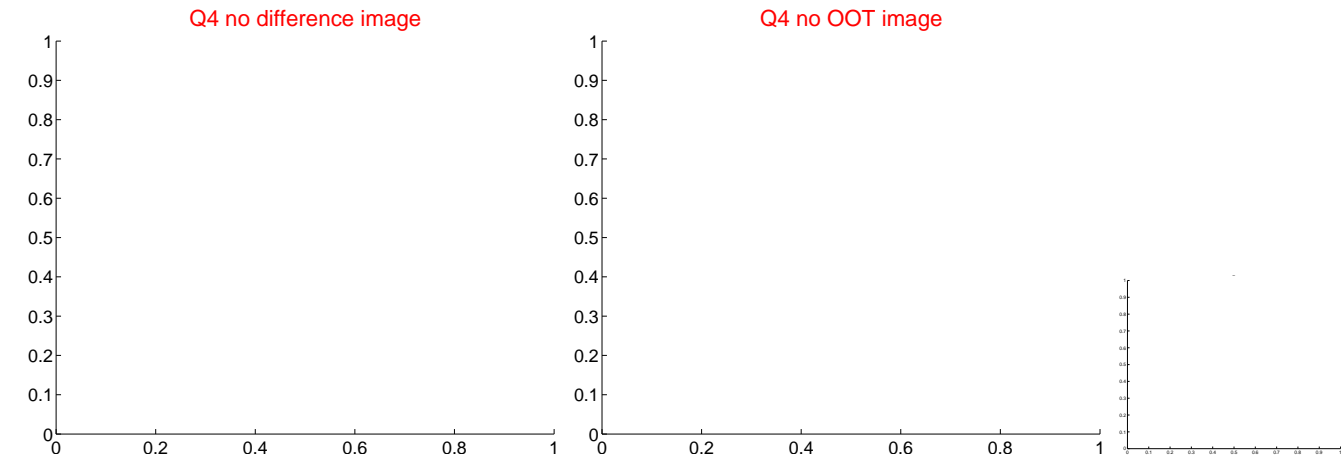
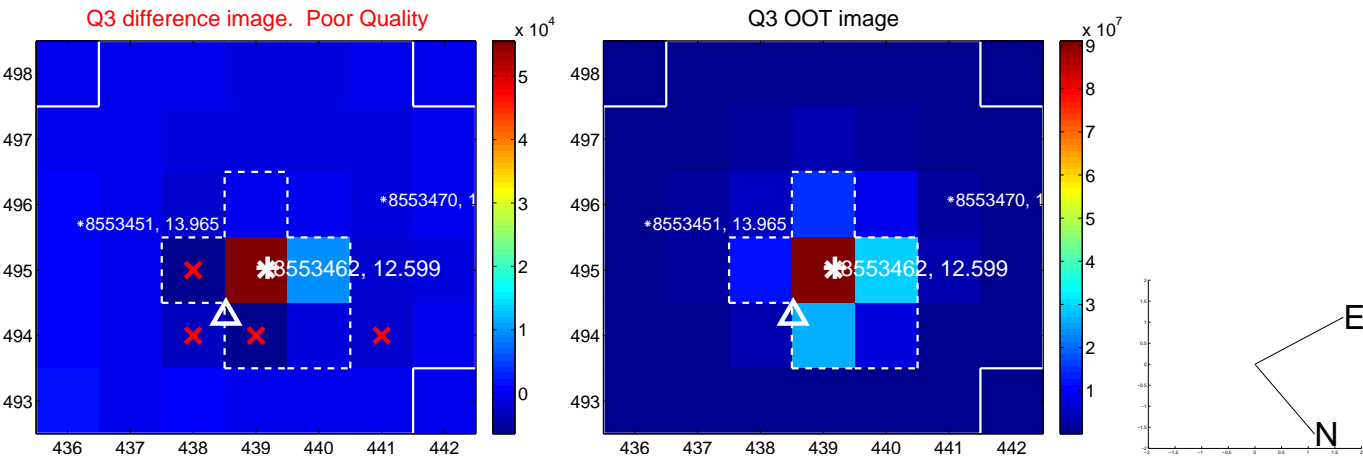
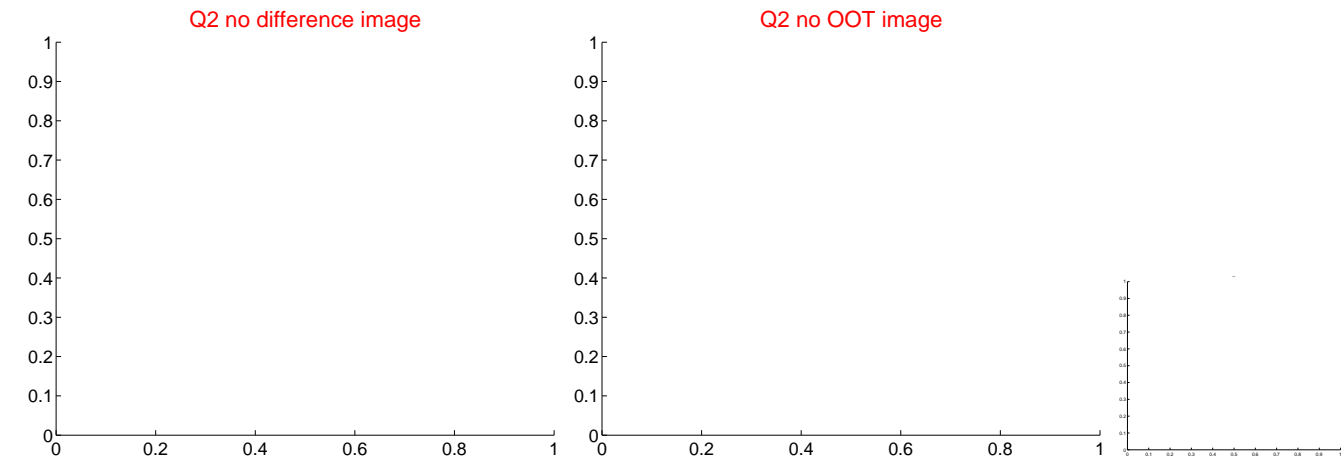
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	4.584 ± 1.278	3.59	-4.198 ± 0.962	-1.841 ± 1.169
PRF-fit source offset from KIC position	4.479 ± 0.961	4.66	-4.052 ± 0.810	-1.909 ± 0.694
photometric centroid source offset	0.41 ± 0.20	2.09	0.17 ± 0.20	-0.38 ± 0.20

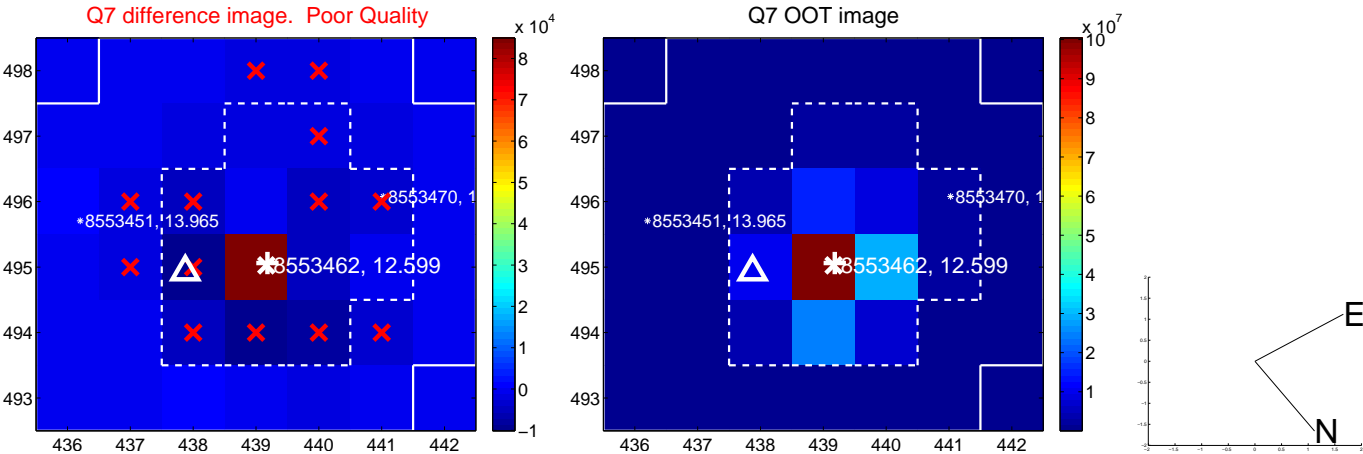
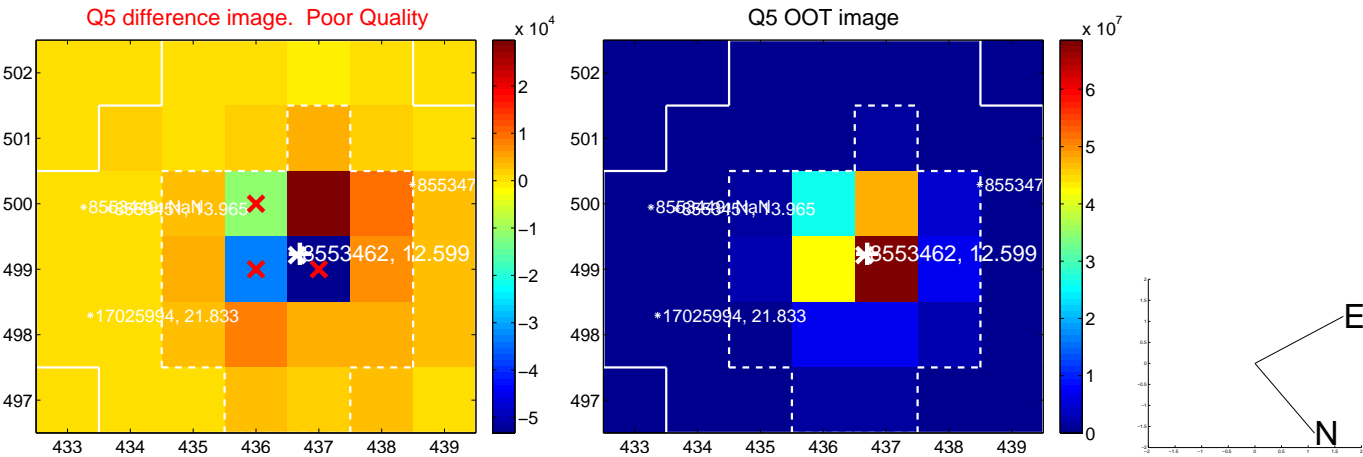


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

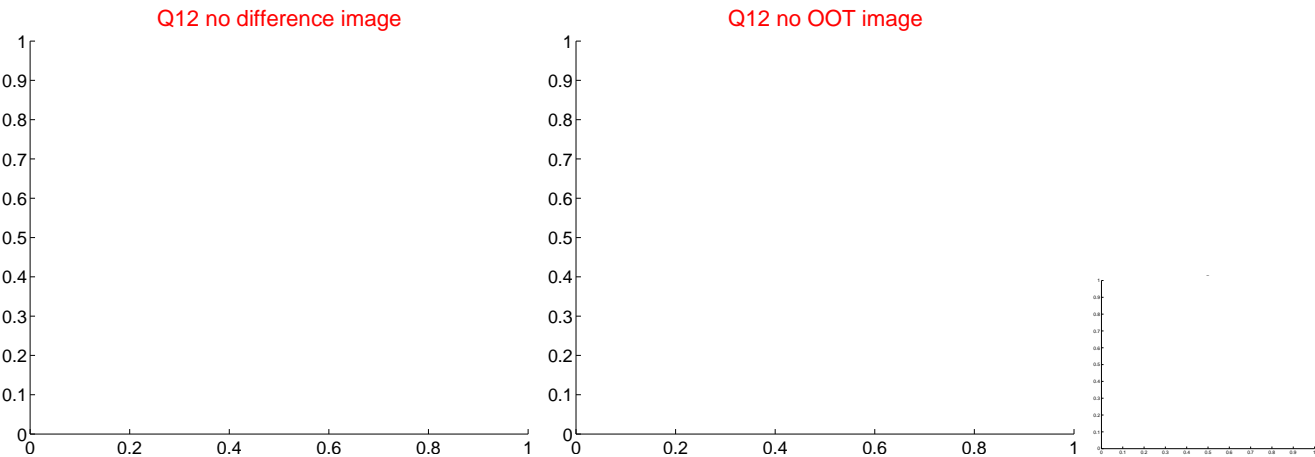
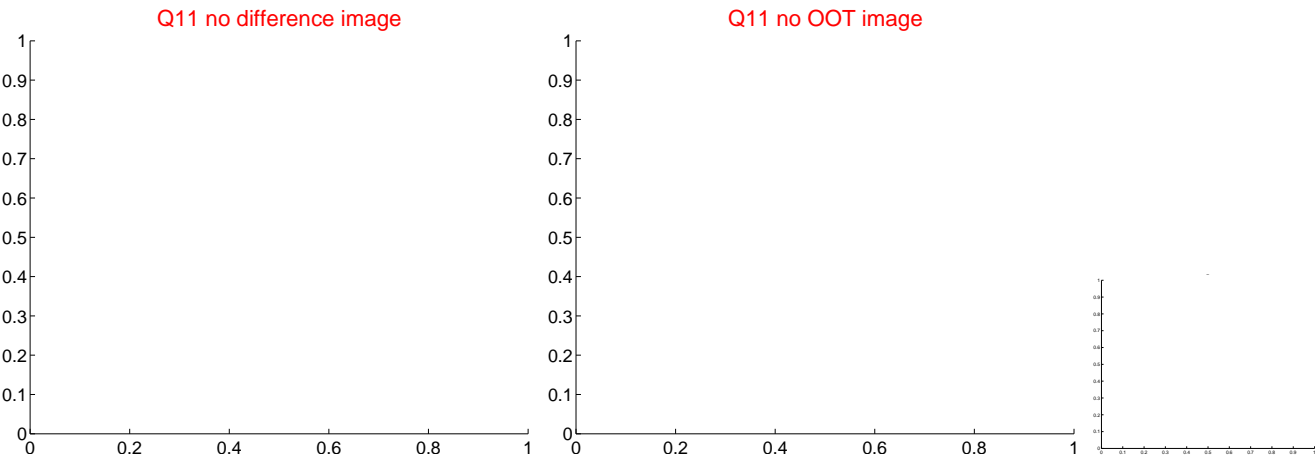
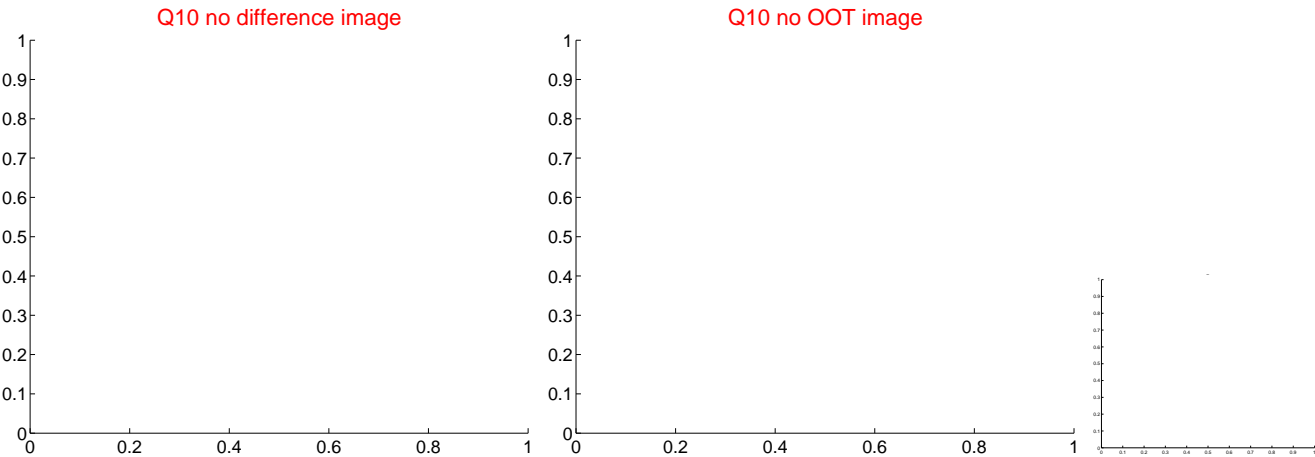
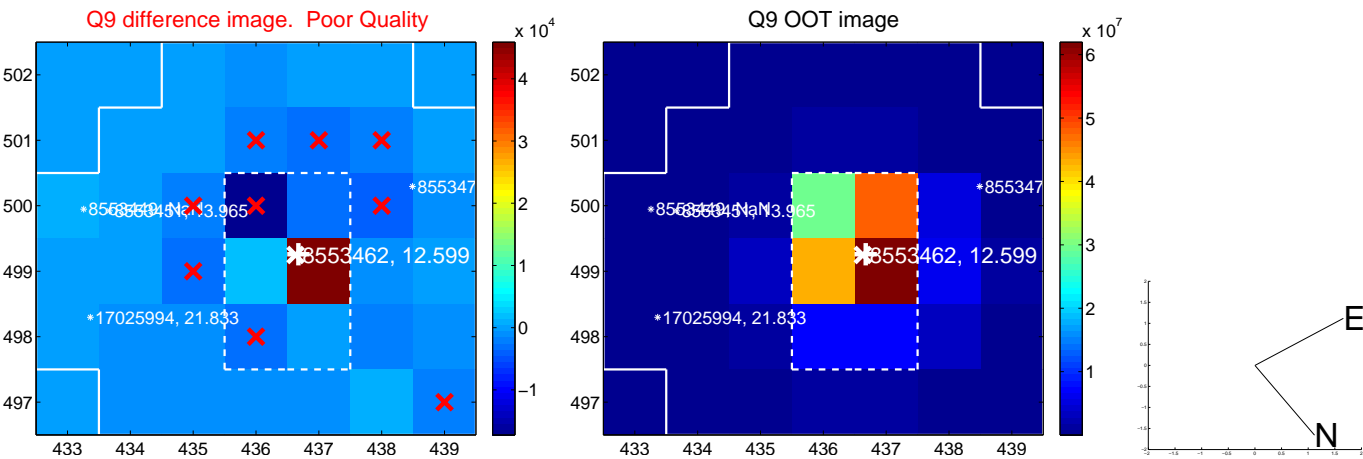
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



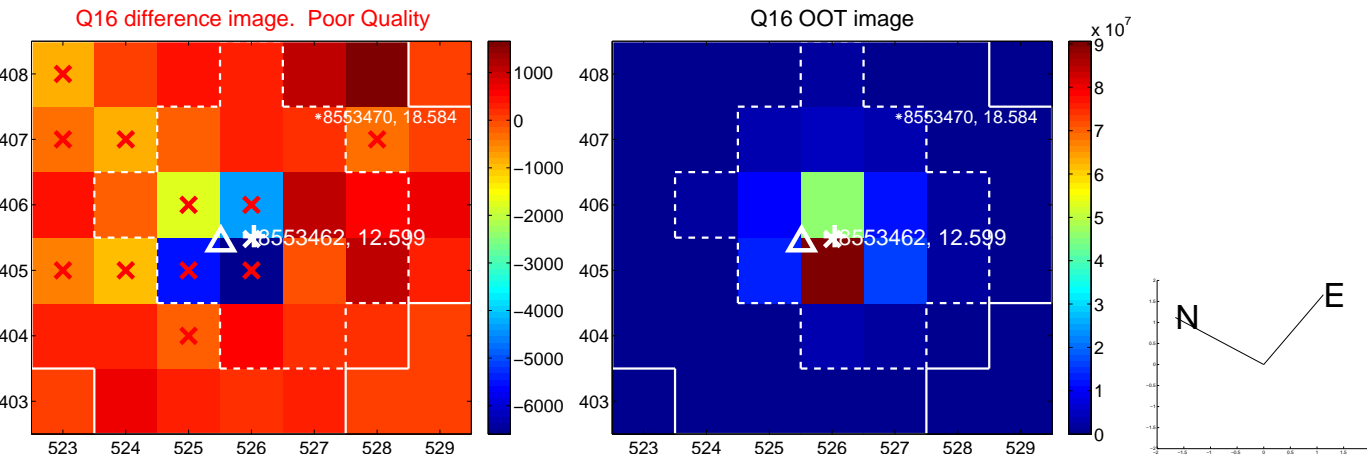
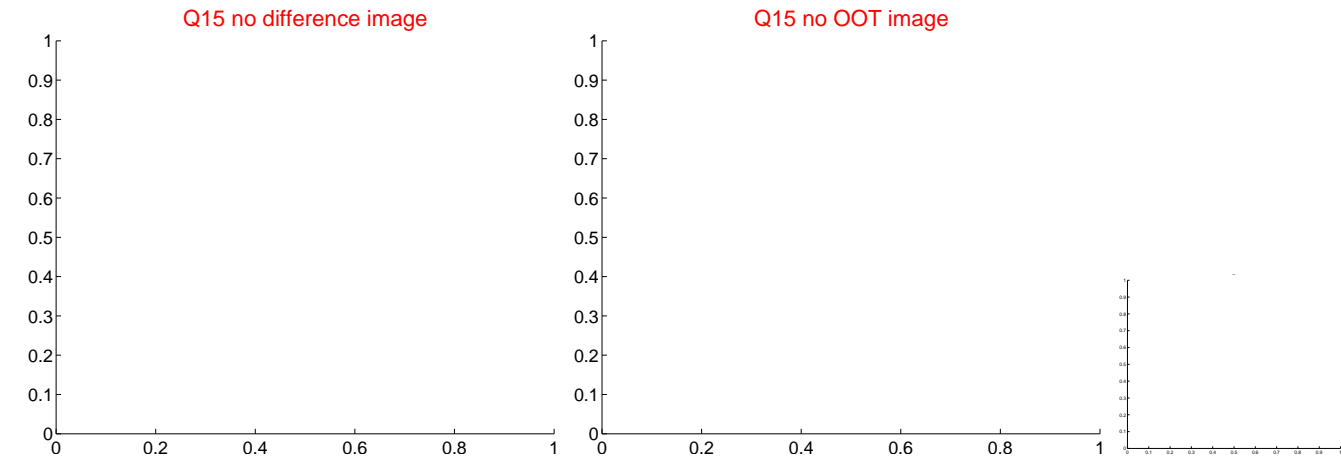
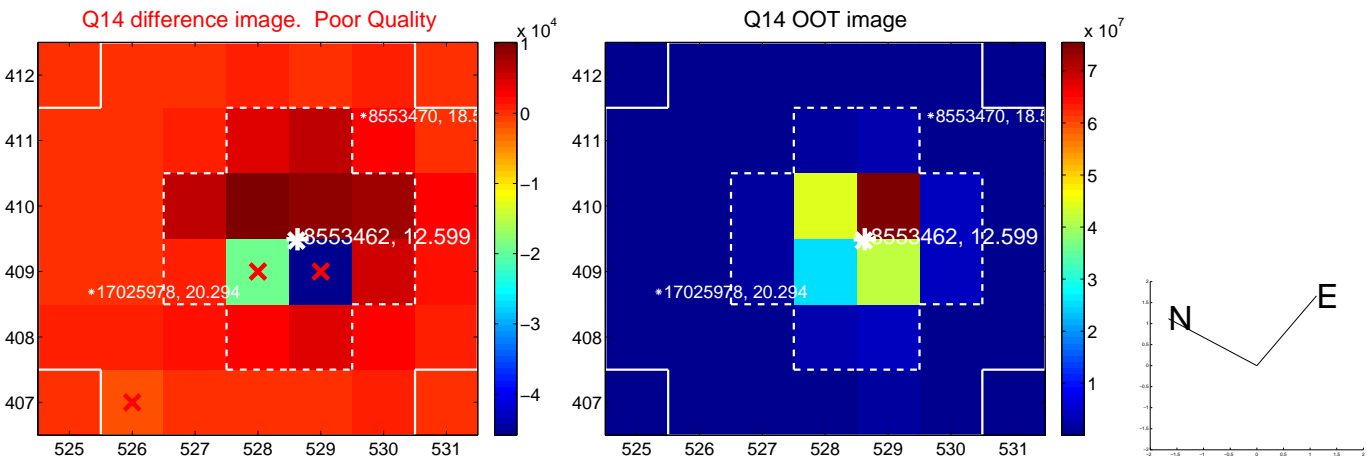
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



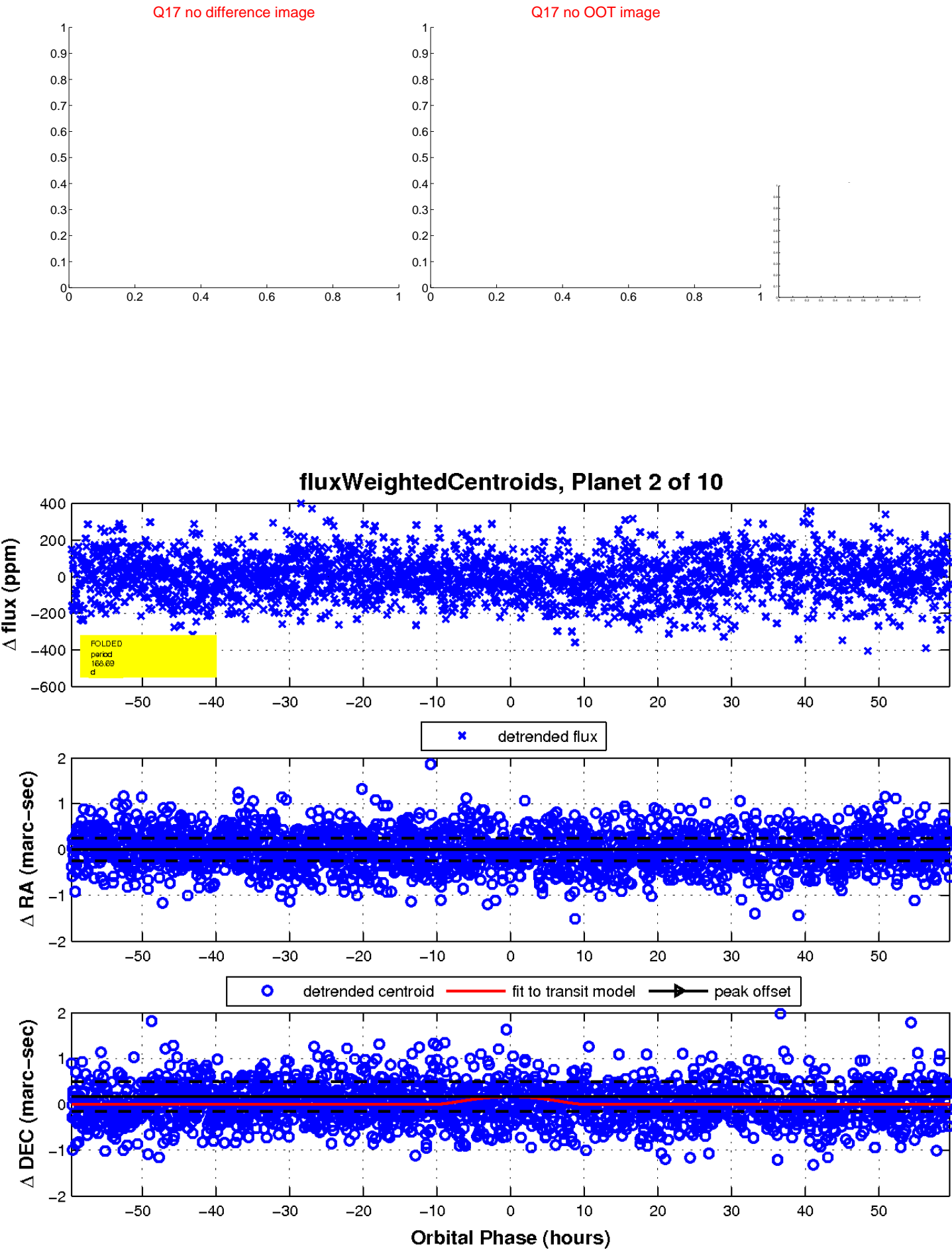
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

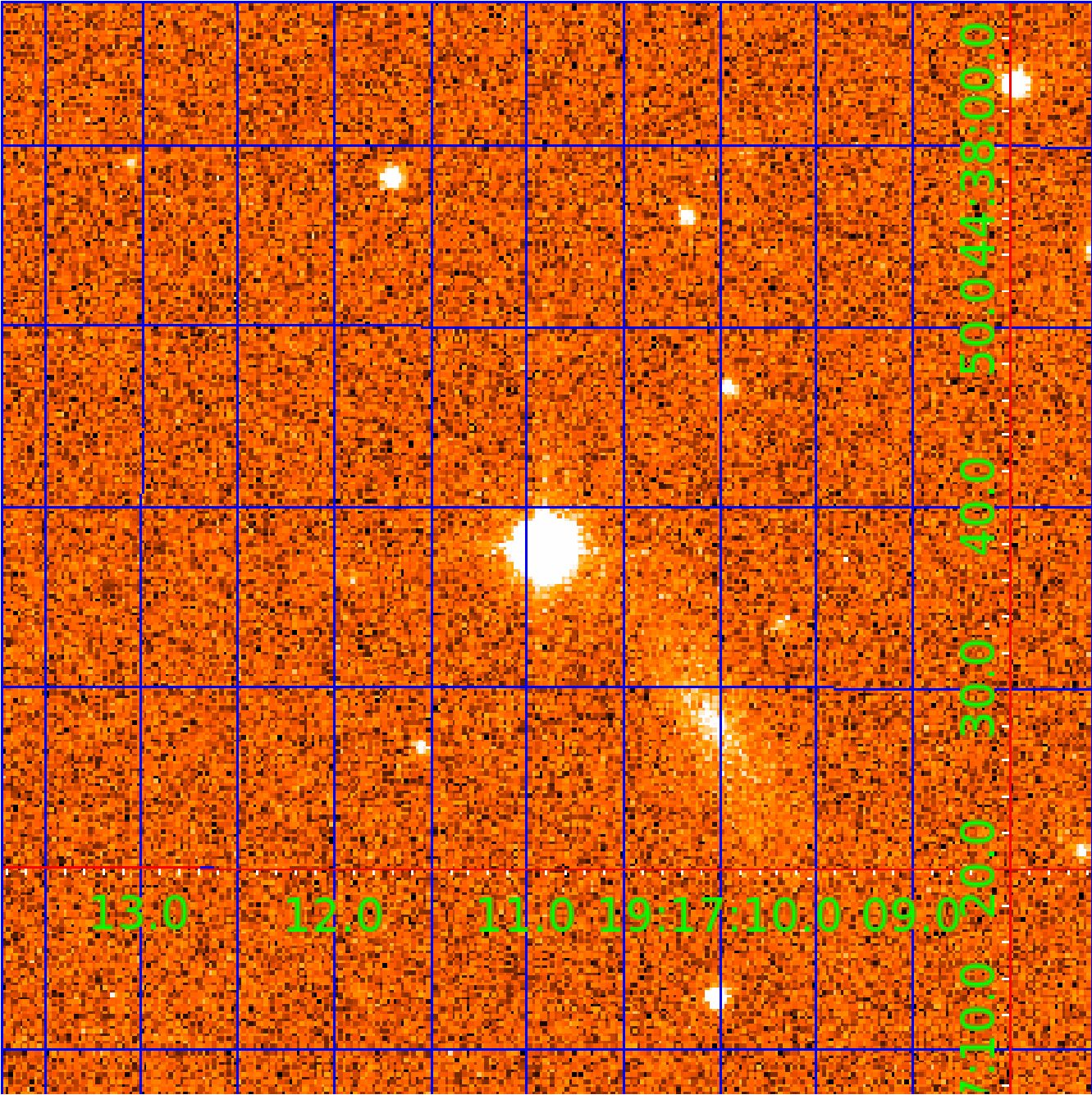


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008553462-01	OBS	No	2.768998	134.441172	0.0	18.950	9.1	0.0	1.84	7296	0.04	4252.50
008553462-02	OBS	No	168.691133	165.172770	602.2	19.886	24.6	22.0	1.84	7296	8.50	17.74
008553462-03	OBS	No	169.273644	193.500394	205.1	21.249	17.4	12.1	1.84	7296	2.77	17.66
008553462-04	OBS	No	215.902359	155.628727	135.2	9.415	10.6	10.0	1.84	7296	2.42	12.77
008553462-05	OBS	No	86.462681	131.957604	195.8	2.322	9.6	9.9	1.84	7296	2.98	43.25
008553462-06	OBS	No	15.001439	132.186756	73.2	5.330	8.7	10.2	1.84	7296	1.80	446.92
008553462-07	OBS	No	265.683201	389.849295	210.2	64.946	9.4	9.8	1.84	7296	2.93	9.68
008553462-08	OBS	No	82.624800	210.760893	185.7	2.972	9.0	8.8	1.84	7296	2.94	45.95
008553462-09	OBS	No	143.910724	263.113872	178.3	4.800	8.7	8.3	1.84	7296	2.86	21.93
008553462-10	OBS	No	42.186045	144.620372	281.0	1.500	9.1	-1.0	1.84	7296	3.14	112.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553462-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008553462-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

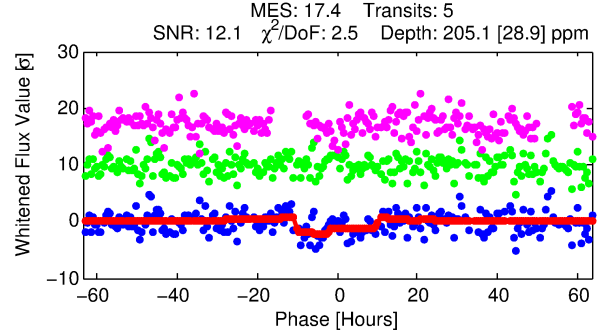
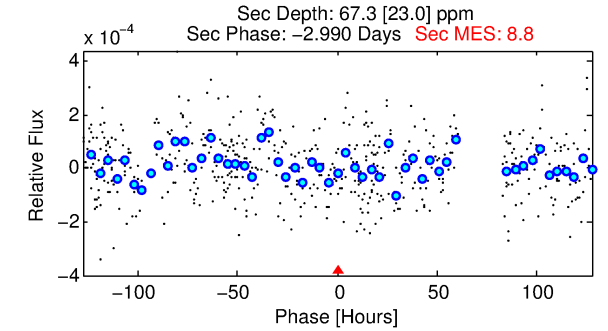
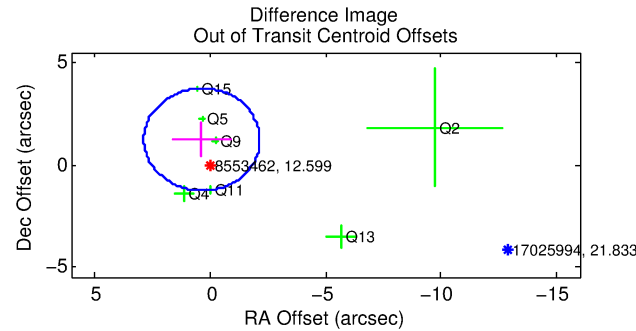
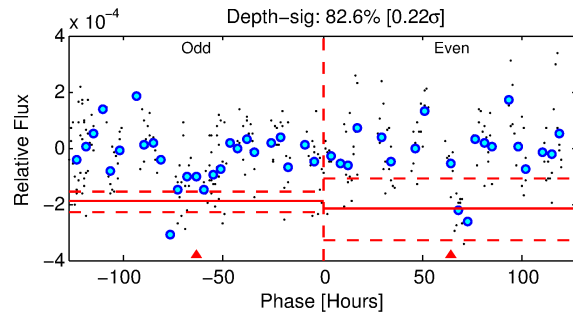
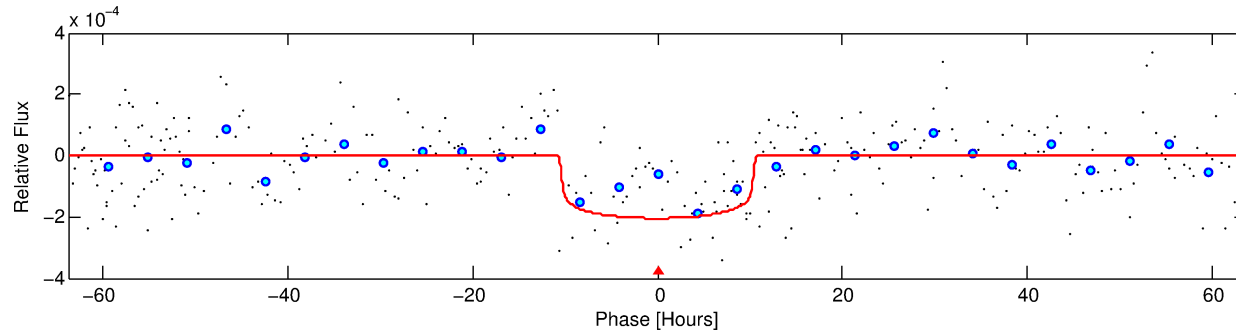
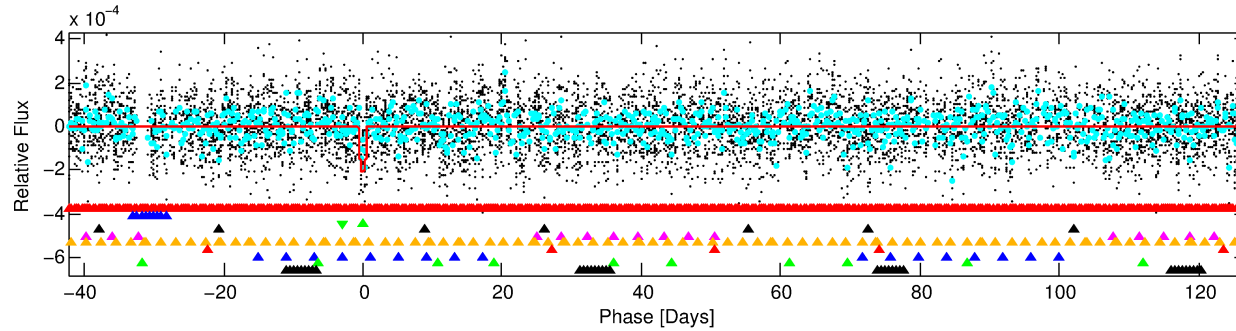
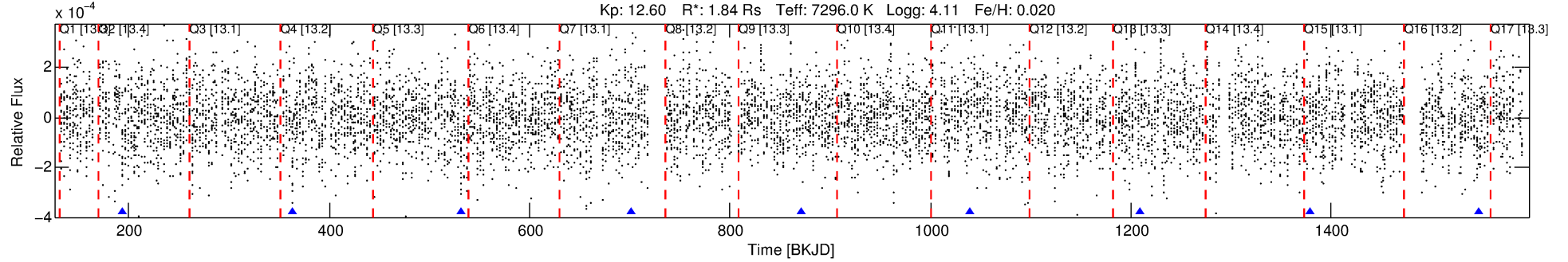
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-03

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 3 of 10 Period: 169.274 d



DV Fit Results:

Period = 169.27364 [0.00387] d
Epoch = 193.5004 [0.0167] BKJD
Rp/R* = 0.0138 [0.0033]
a/R* = 50.44 [68.89]
b = 0.58 [1.55]
Seff = 17.66 [6.90]
Teq = 523 [51] K
Rp = 2.77 [1.07] Re
a = 0.6992 [0.1728] AU
Ag = 2357.99 [1613.96] [1.46σ]
Teffp = 5632 [864] K [5.90σ]

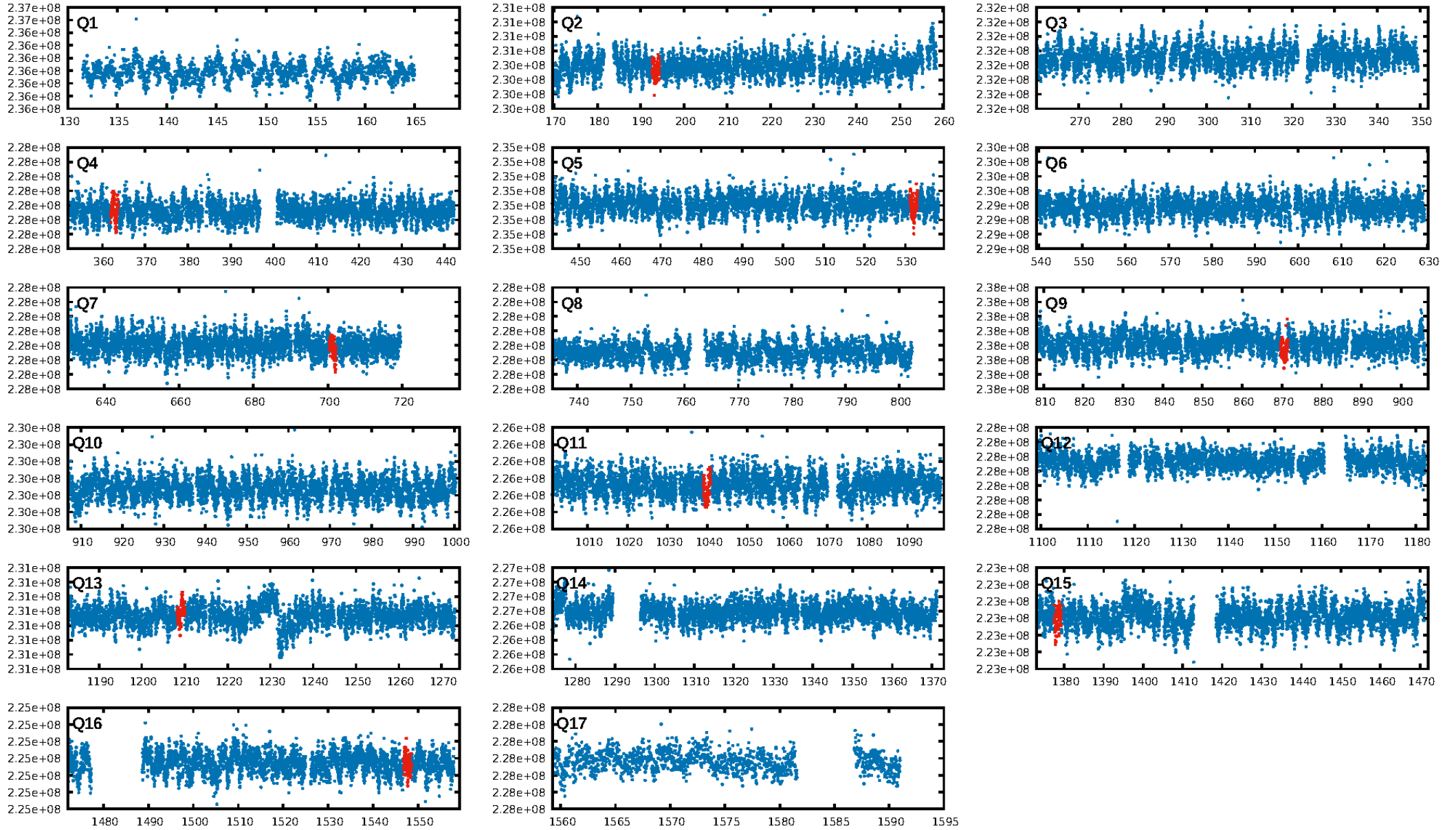
DV Diagnostic Results:

ShortPeriod-sig: 36.9% [0.48σ]
LongPeriod-sig: 100.0% [48.15σ]
ModelChiSquare2-sig: 71.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: 1.234
Centroid-sig: 57.7%
Centroid-so: 0.457 arcsec [1.00σ]
OotOffset-rm: 1.275 arcsec [1.53σ]
OotOffset-st: 1/2/1/3 [7]
KicOffset-rm: 2.449 arcsec [3.14σ]
KicOffset-st: 1/2/1/3 [7]
DiffImageQuality-fgm: 0.43 [3/7]
DiffImageOverlap-fno: 0.00 [0/8]

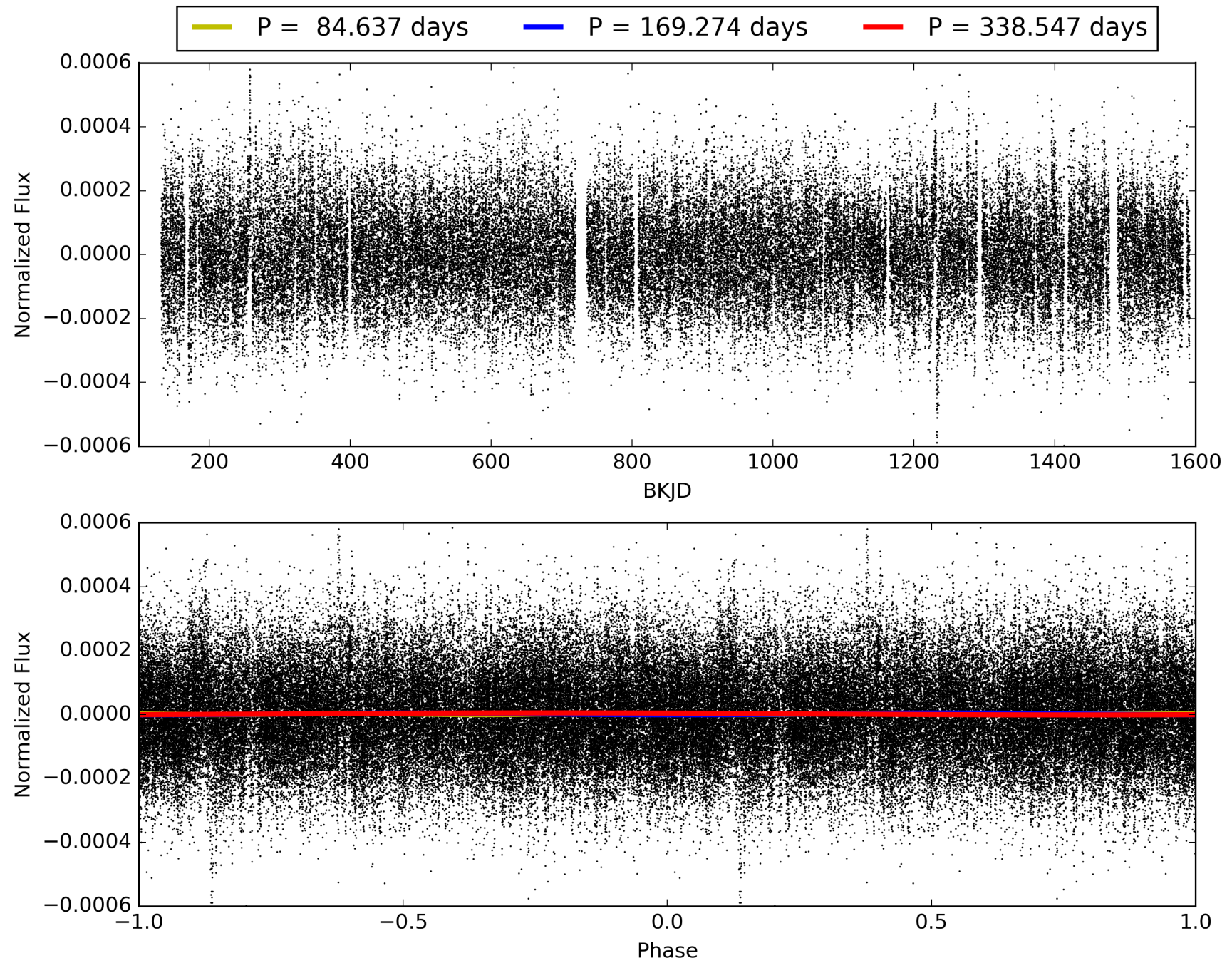
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:18:13 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008553462-03, PDC Light Curves

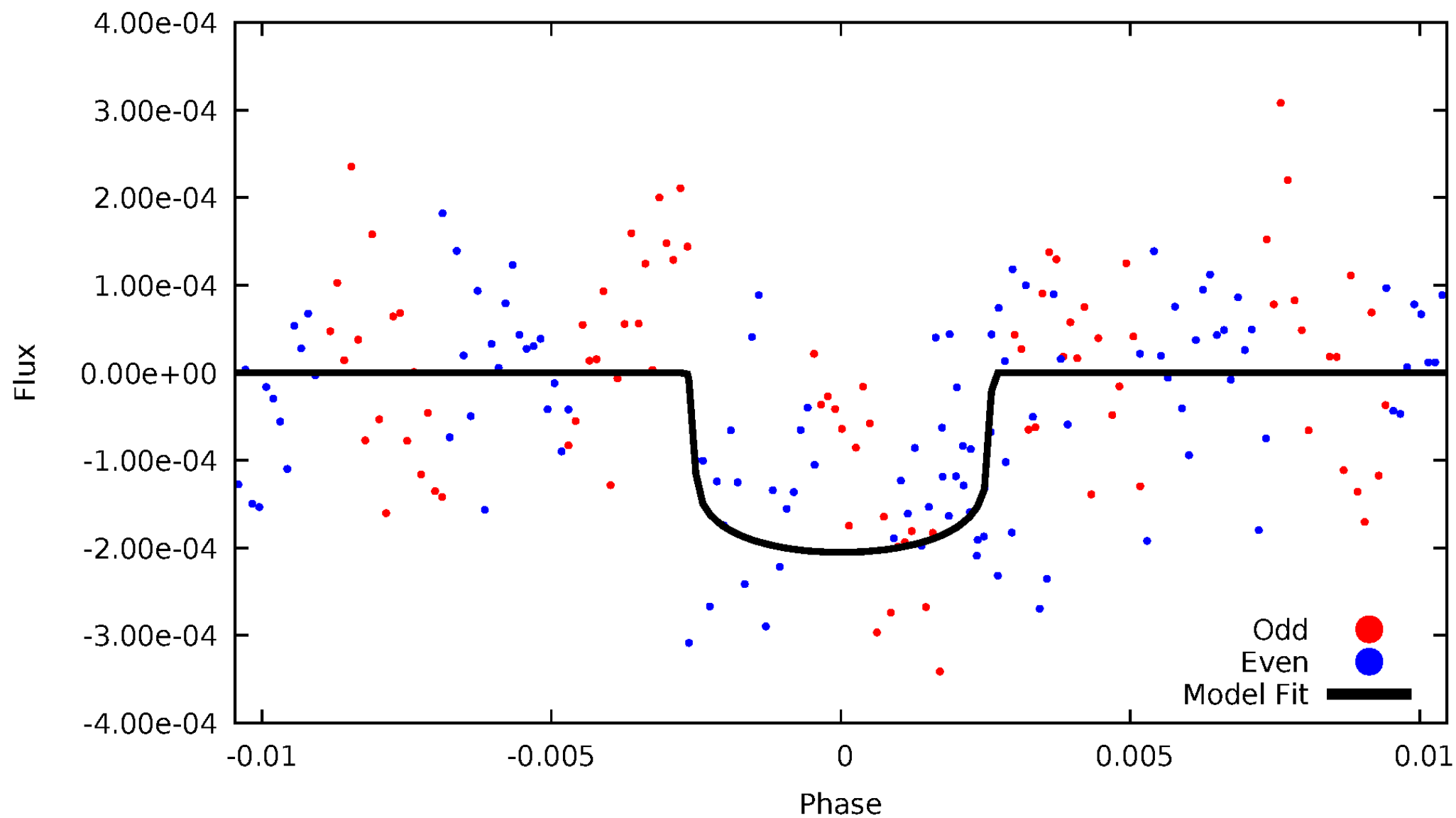


TCE 008553462-03



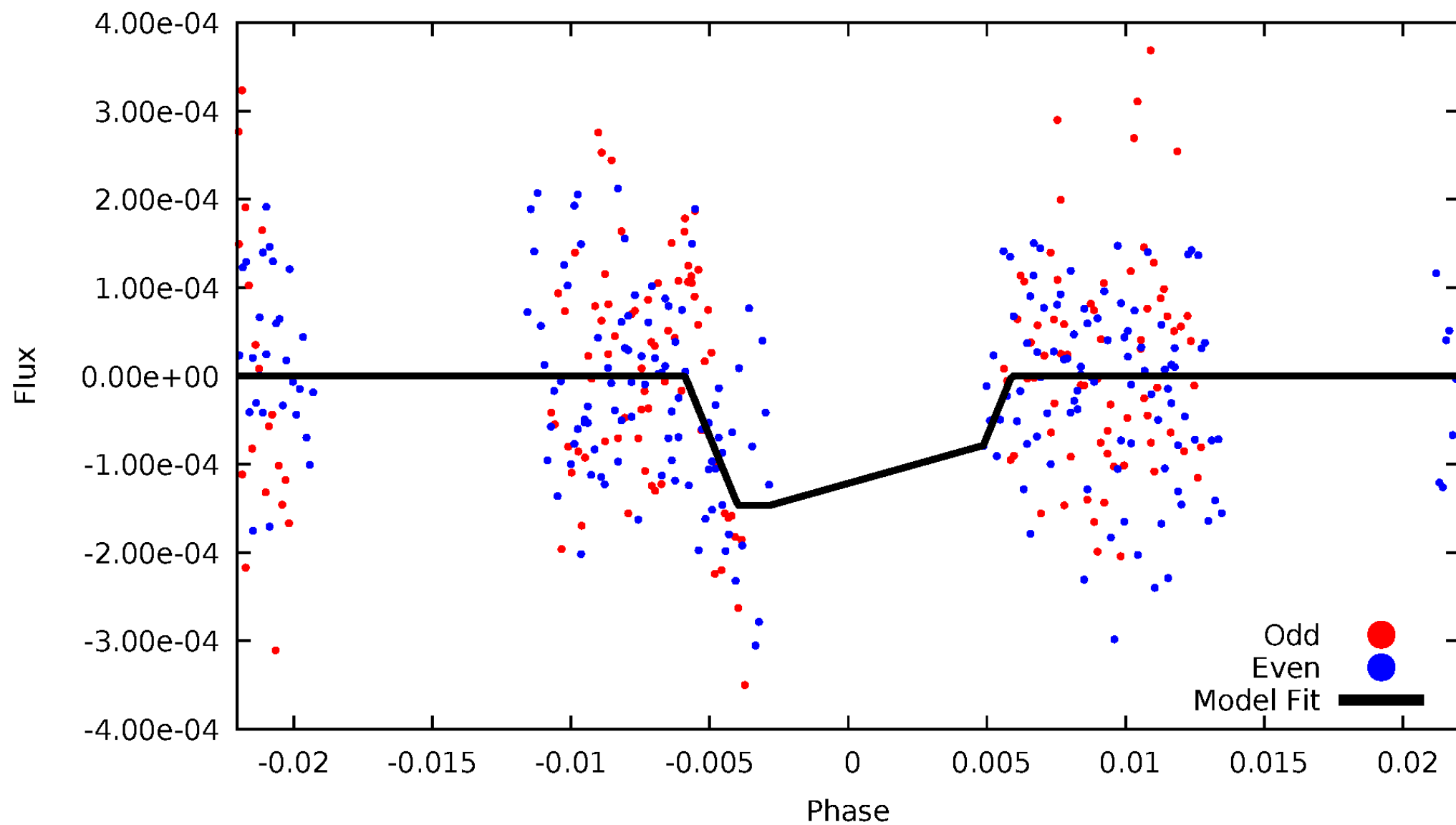
DV Odd/Even

TCE 008553462-03



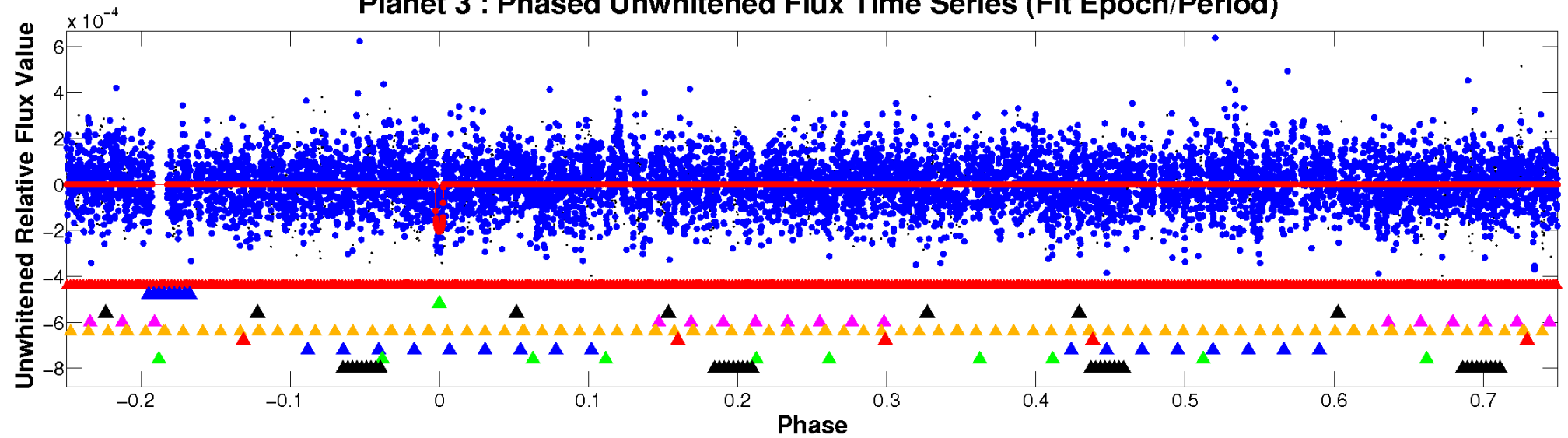
ALT Odd/Even

TCE 008553462-03

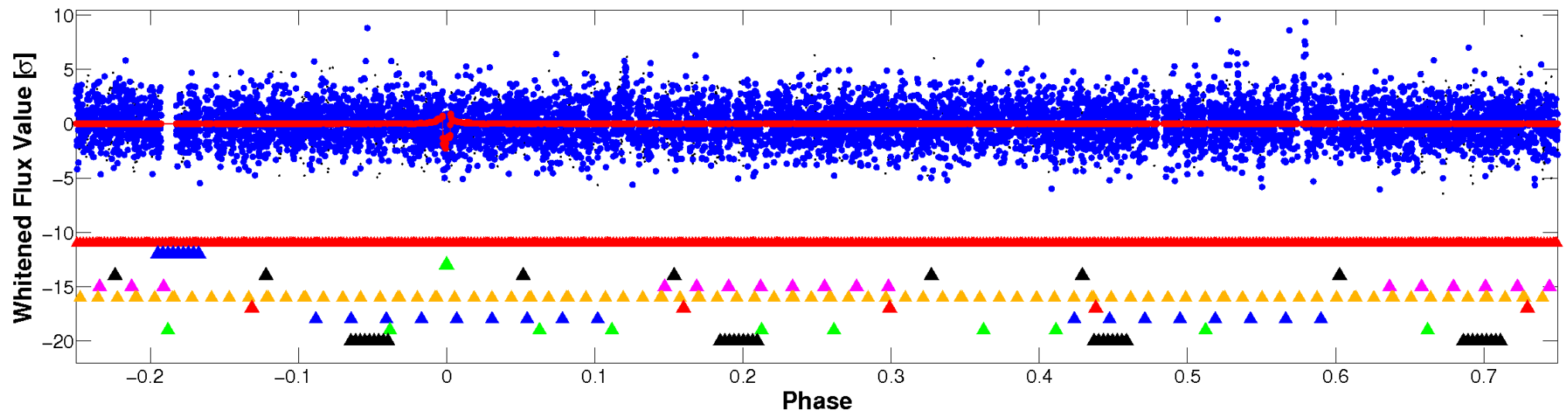


Non-Whitened Vs. Whitened Light Curve

Planet 3 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

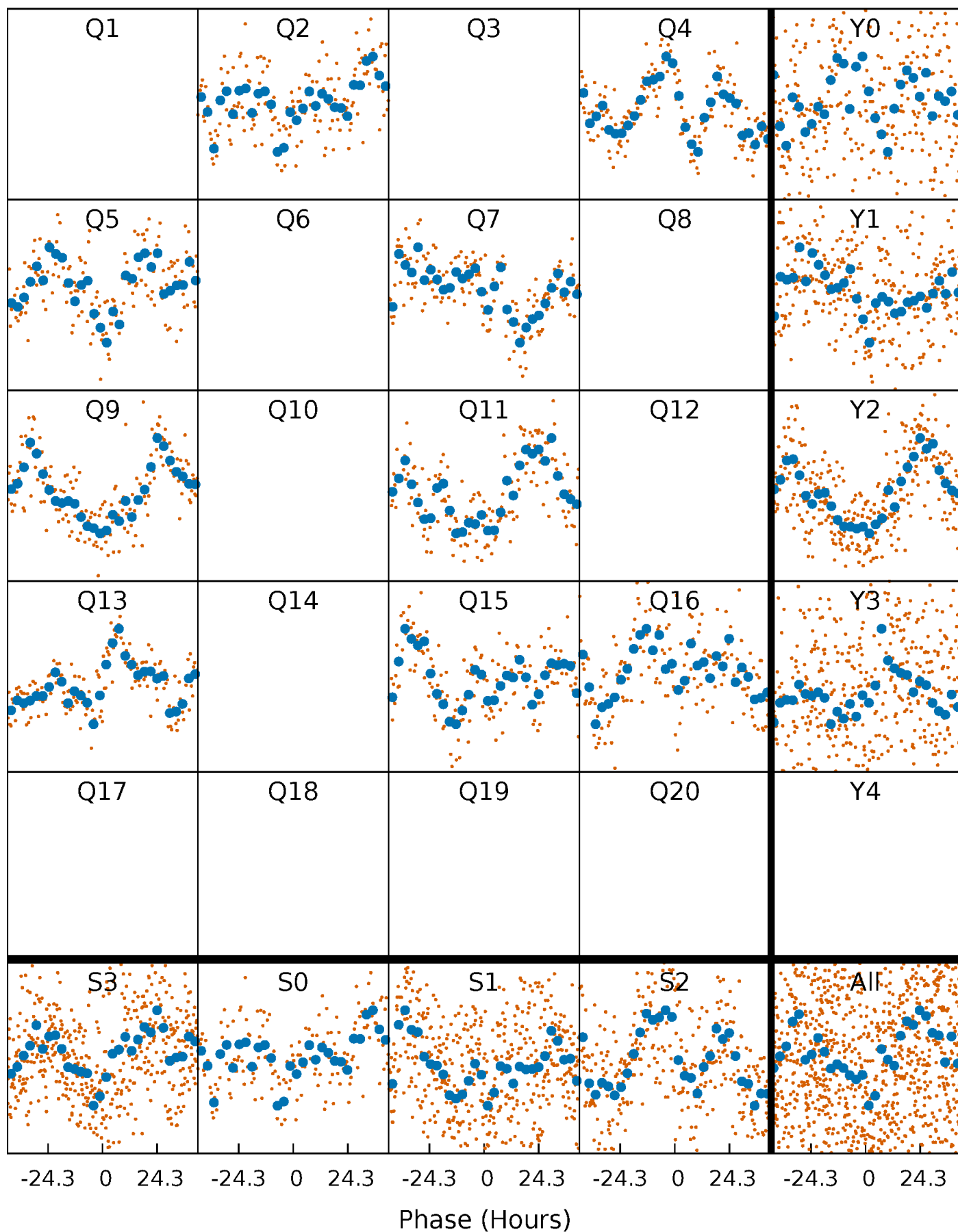


Planet 3 : Phased Whitened Flux Time Series (Fit Epoch/Period)



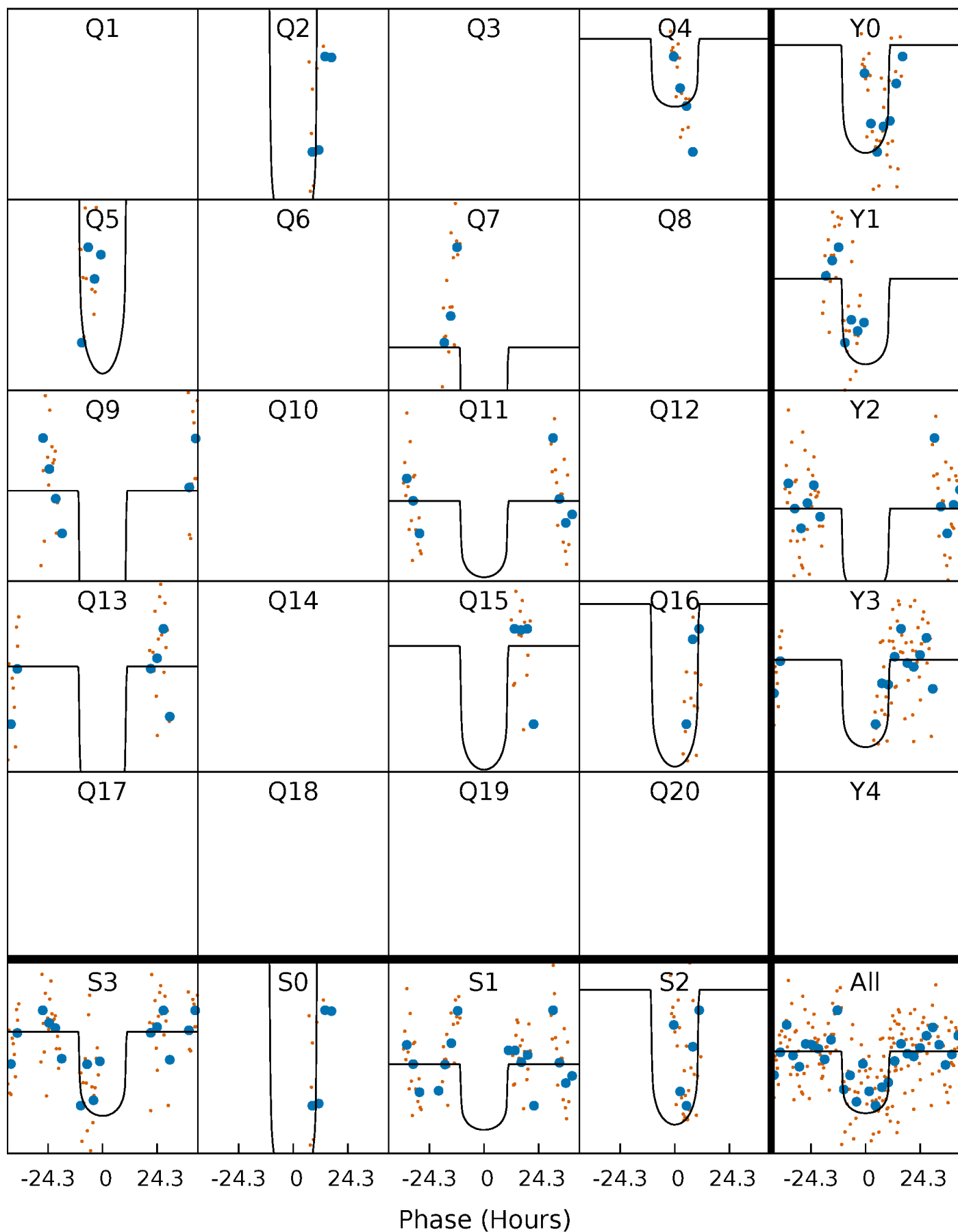
PDC Quarter-Phased Transit Curves

TCE 008553462-03 P=169.273644 Days $T_0=193.500394$ (BKJD)



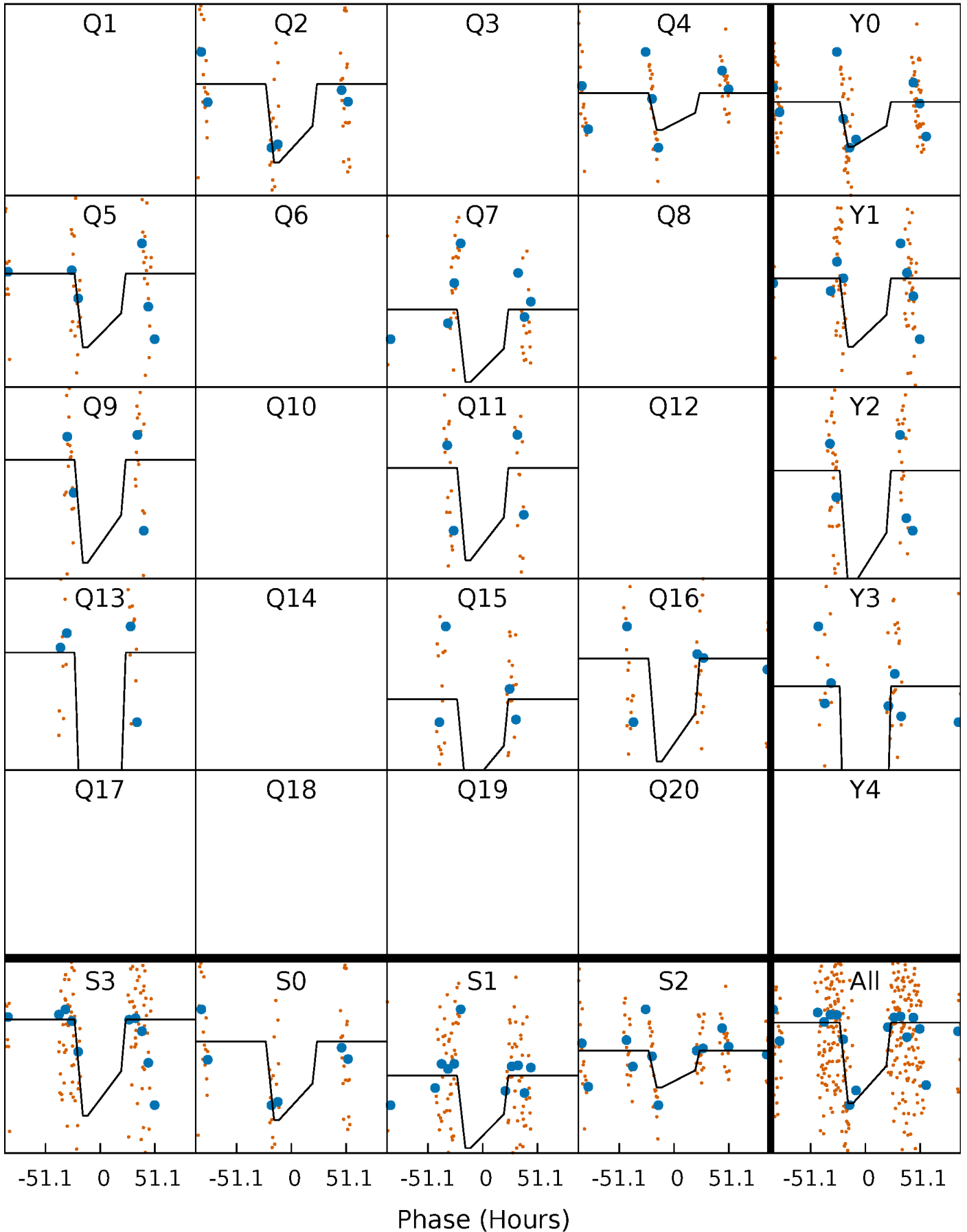
DV Quarter-Phased Transit Curves

TCE 008553462-03 P=169.273644 Days $T_0=193.500394$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

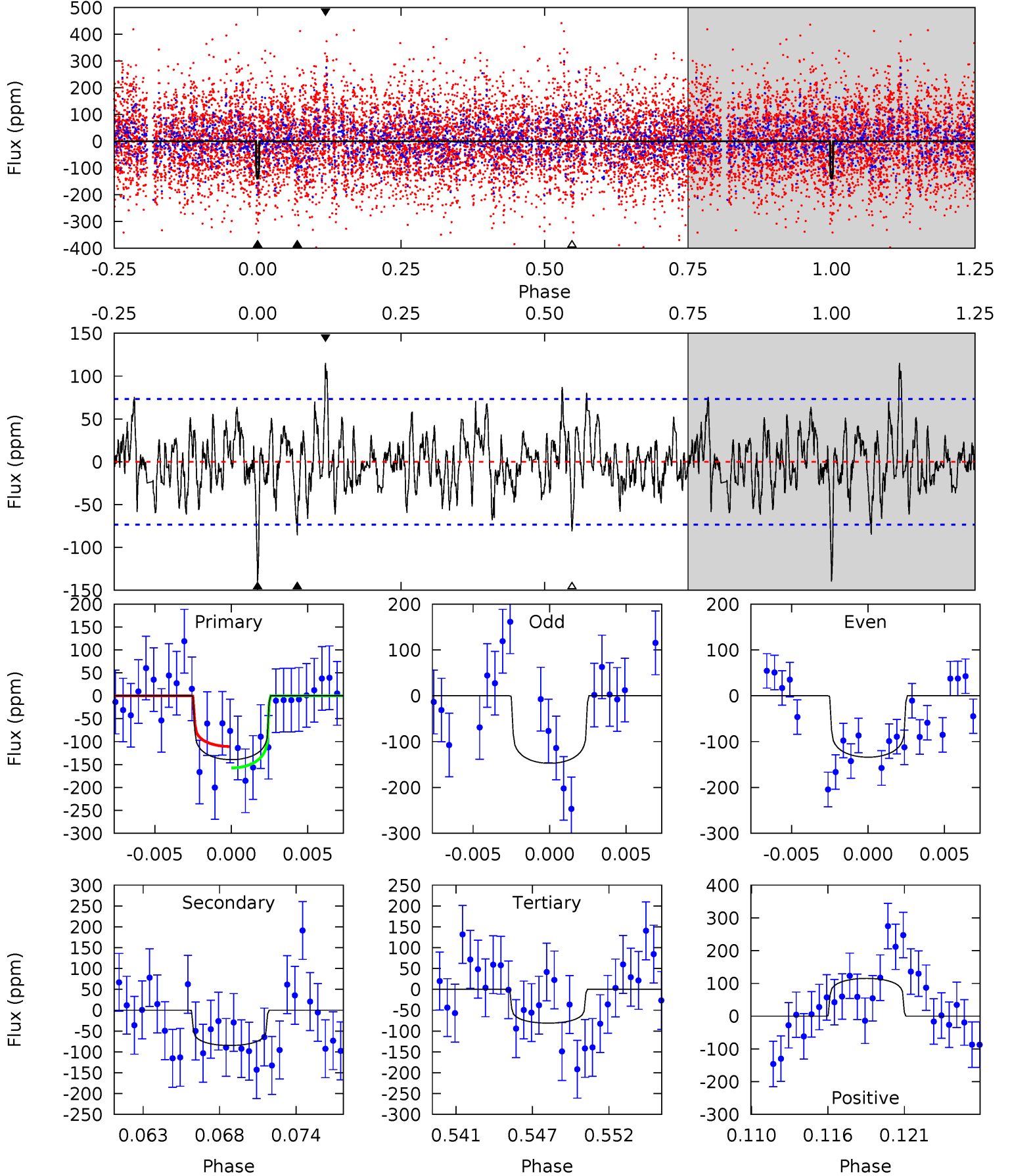
TCE 008553462-03 $P=169.046842$ Days $T_0=194.646426$ (BKJD)



DV Model-Shift Uniqueness Test

008553462-03, P = 169.273644 Days, E = 24.226750 Days

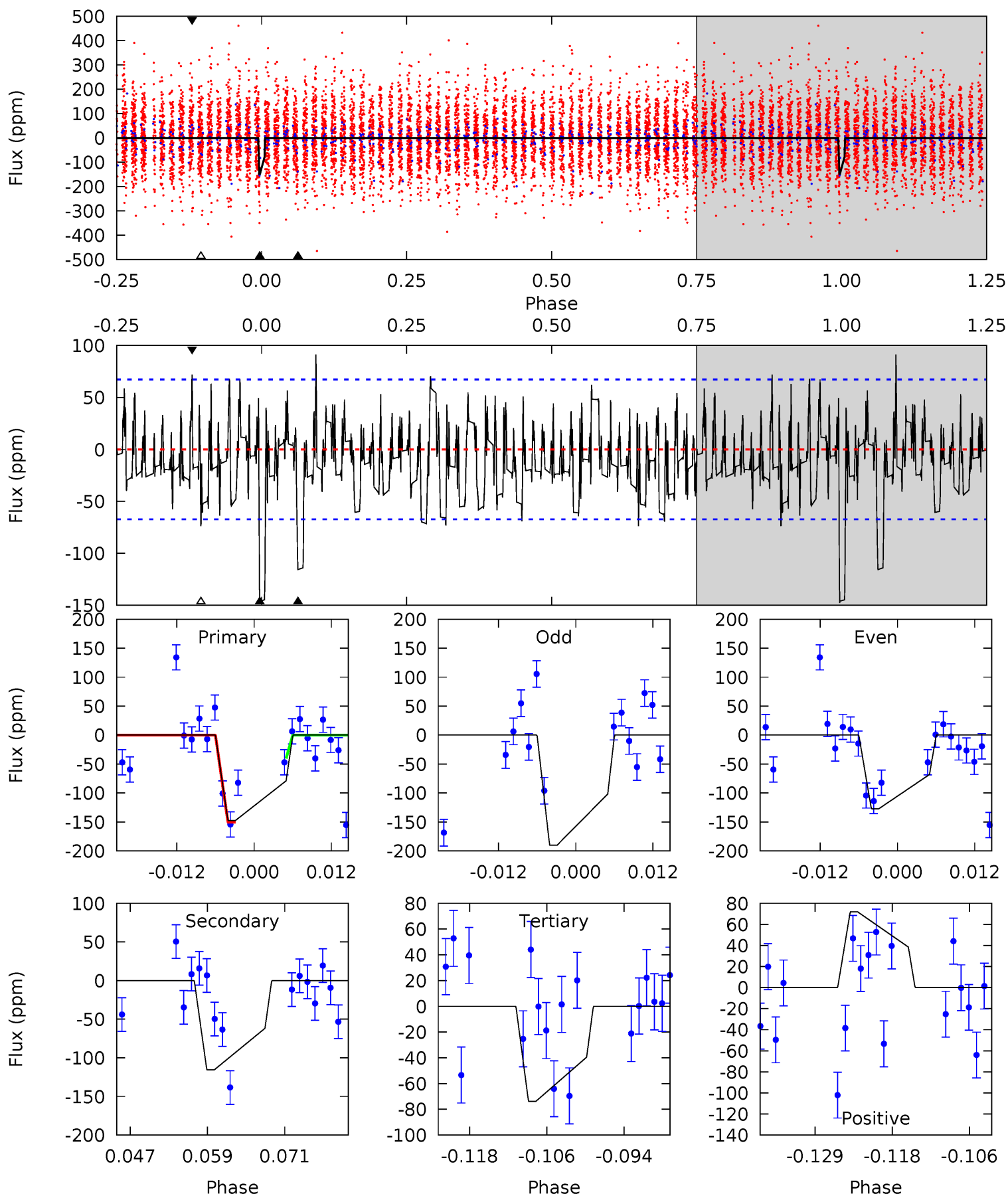
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.80	5.95	5.70	8.09	5.15	2.79	1.95	4.10	1.71	0.25	-2.14	0.43	1.01	0.45	1.59



Alt Model-Shift Uniqueness Test

008553462-03, P = 169.046842 Days, E = 25.599584 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
11.0	8.58	5.48	5.33	5.00	2.52	1.97	5.47	5.62	3.10	3.25	2.28	-0.25	0.38	3.11



Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-03 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-85 ± 14	$2.78^{+0.86}_{-0.68}$	730^{+59}_{-45}	5852^{+894}_{-592}	2897^{+2169}_{-1203}
Alt.	-116 ± 13	$2.44^{+0.94}_{-0.69}$	734^{+55}_{-51}	6772^{+1416}_{-861}	5013^{+5237}_{-2252}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

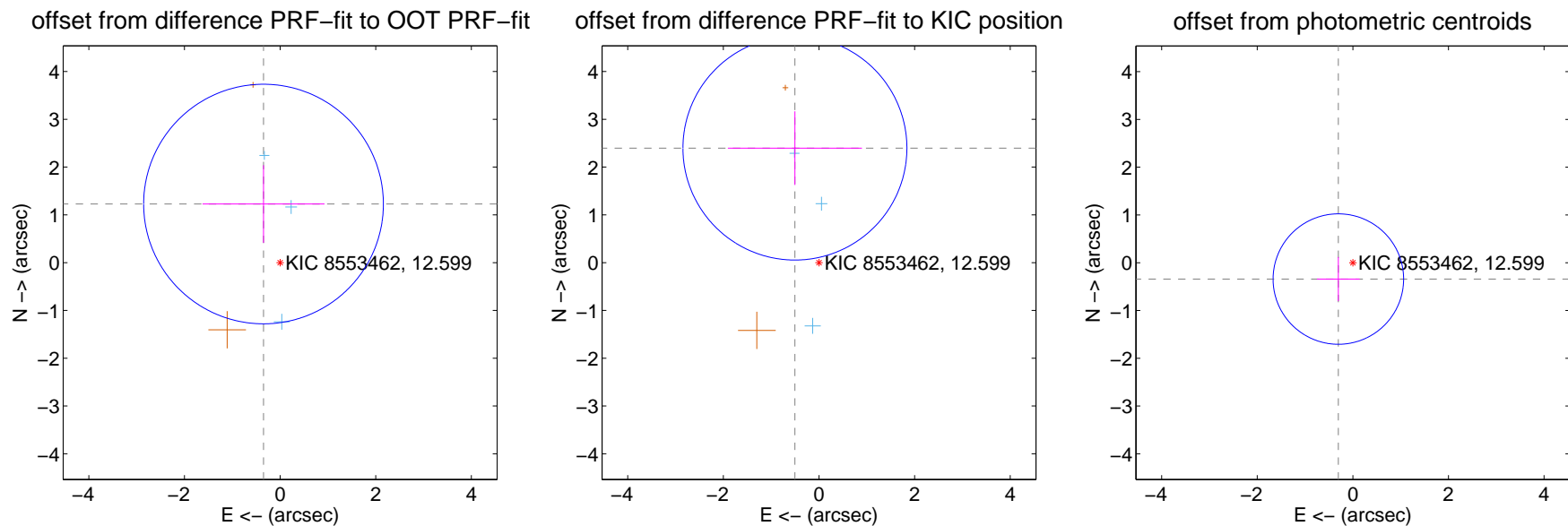
DV Centroid Data

Supplemental centroid analysis for 008553462-03. Kepler magnitude: 12.60. Transit SNR 12.13

There are 3 quarters with good PRF difference image offsets

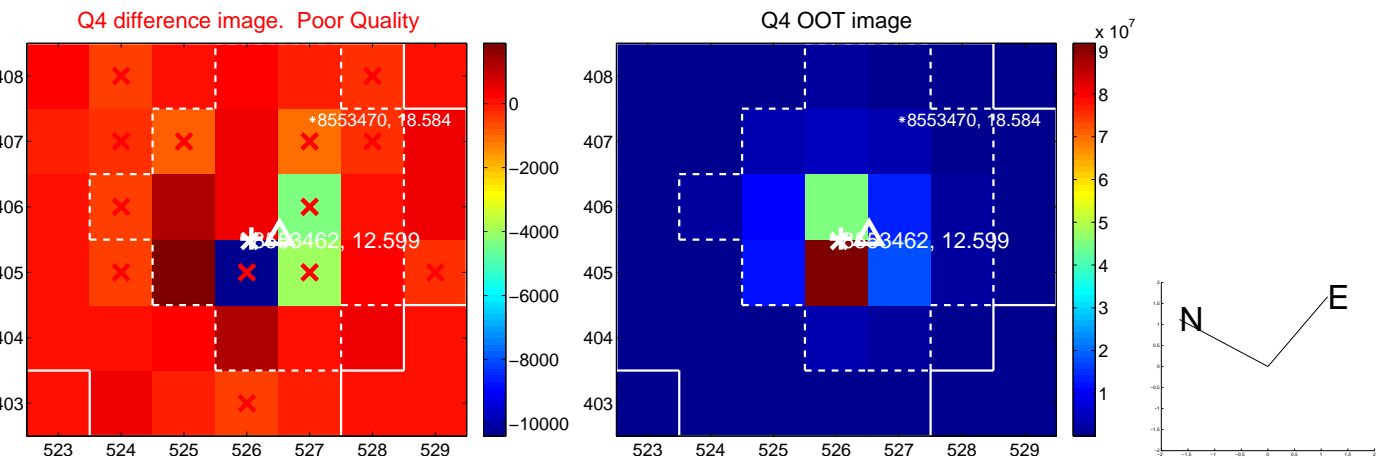
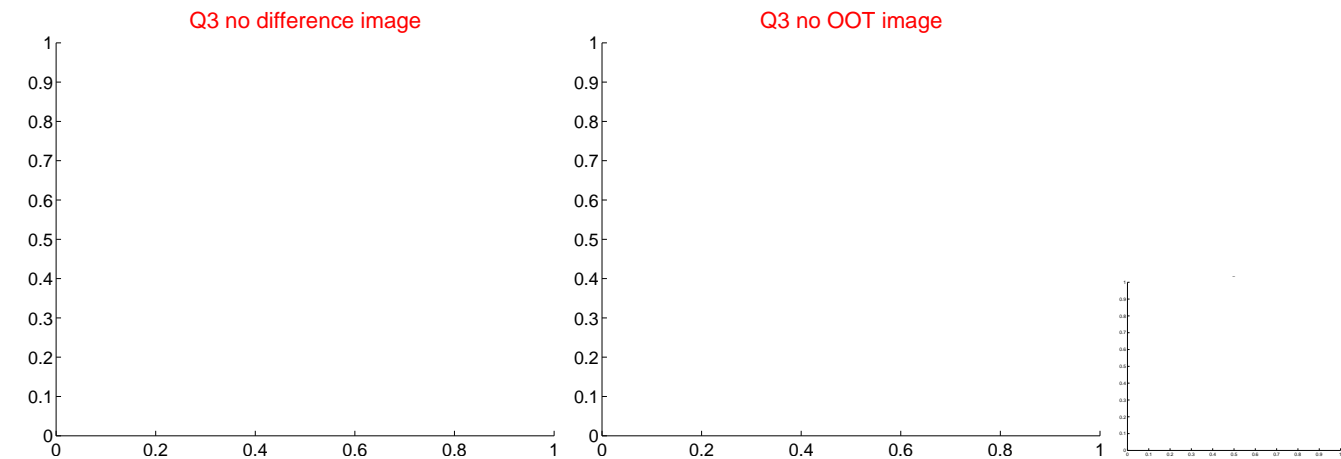
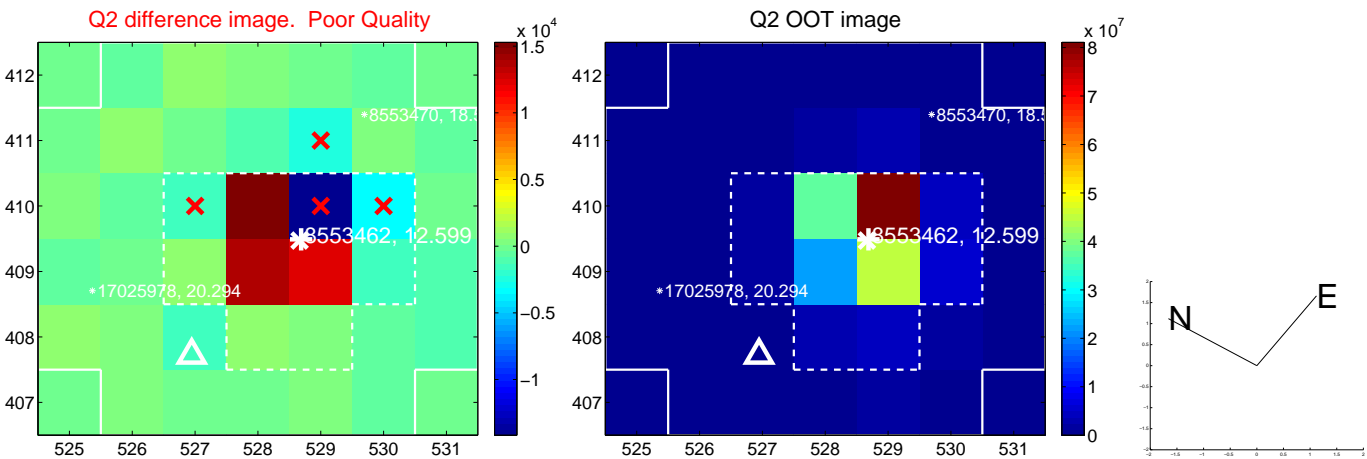
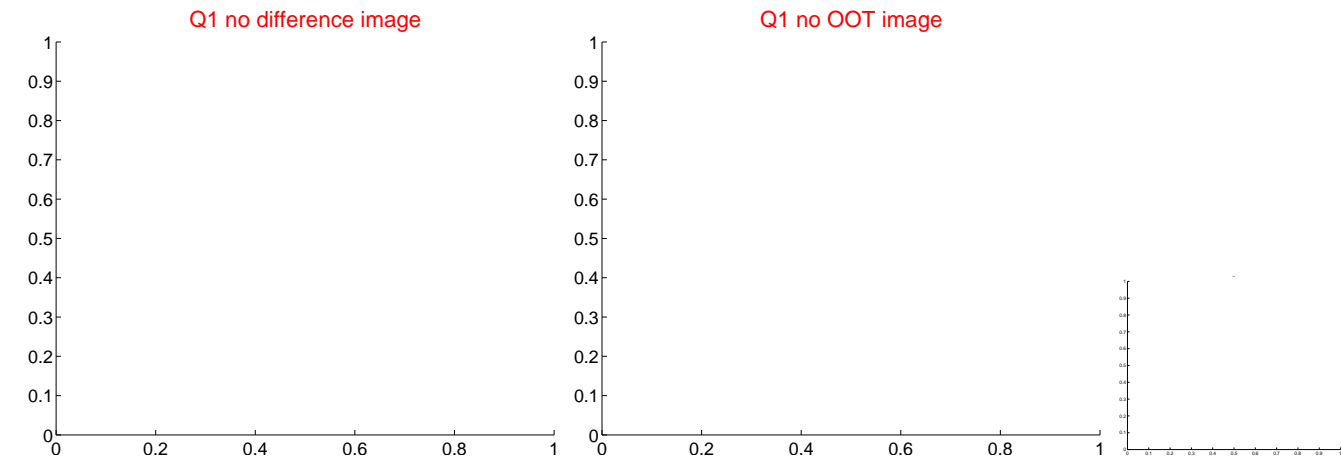
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.275 ± 0.836	1.53	0.347 ± 1.276	1.227 ± 0.812
PRF-fit source offset from KIC position	2.449 ± 0.781	3.14	0.503 ± 1.402	2.396 ± 0.771
photometric centroid source offset	0.46 ± 0.46	1.00	0.30 ± 0.45	-0.34 ± 0.46

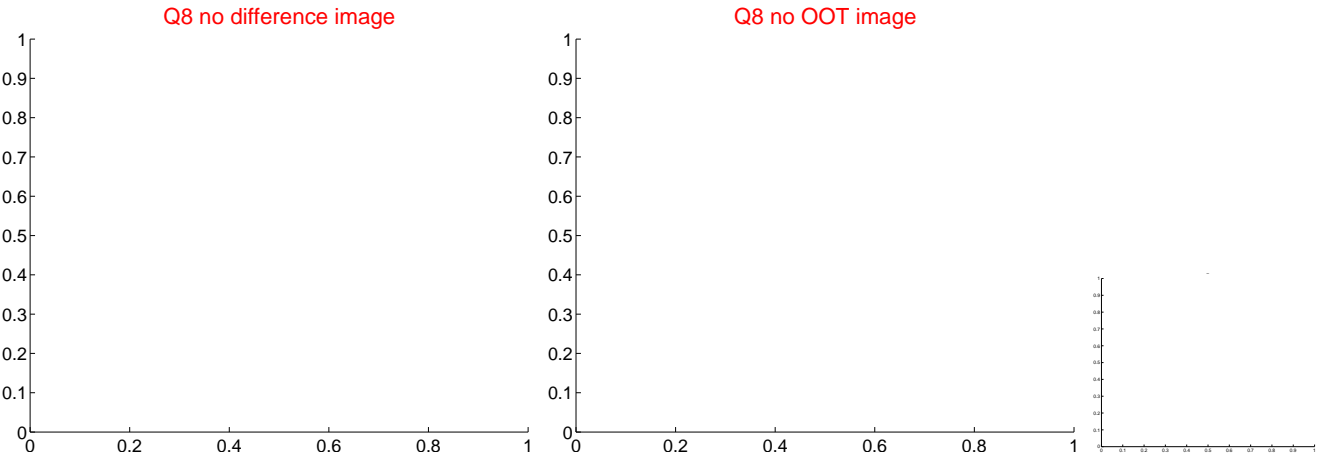
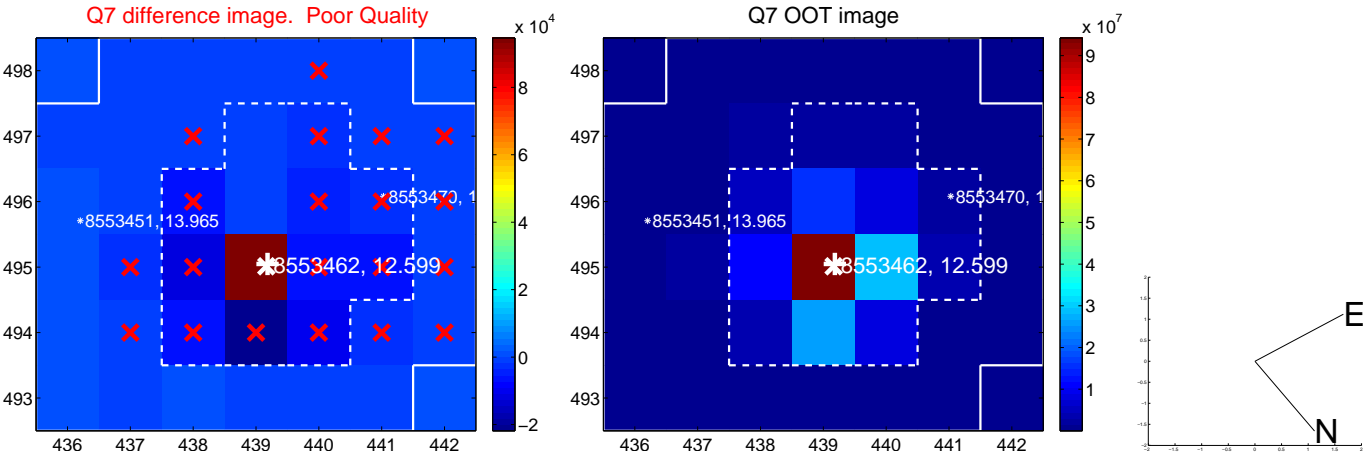
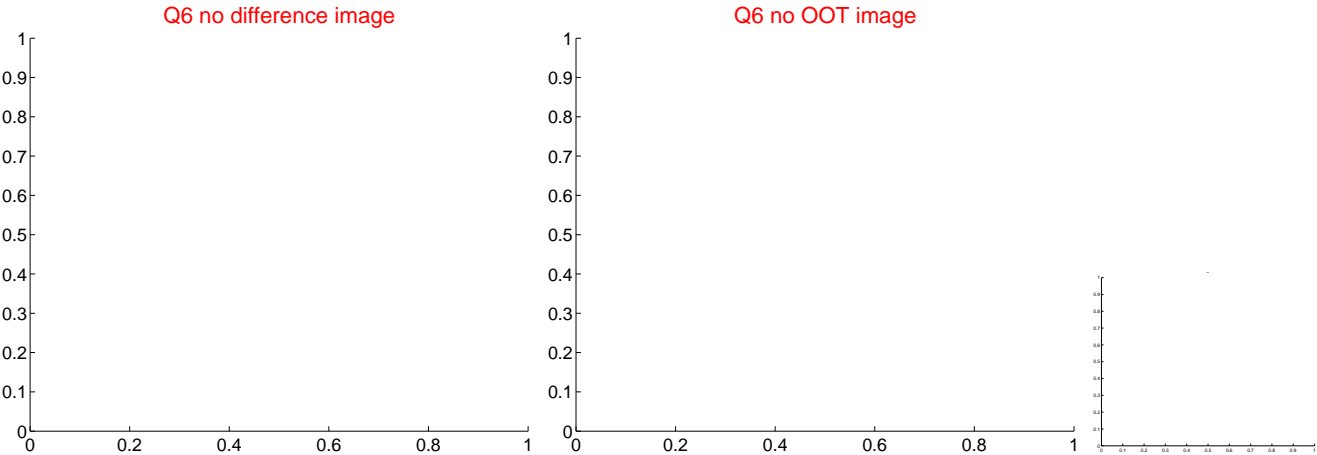
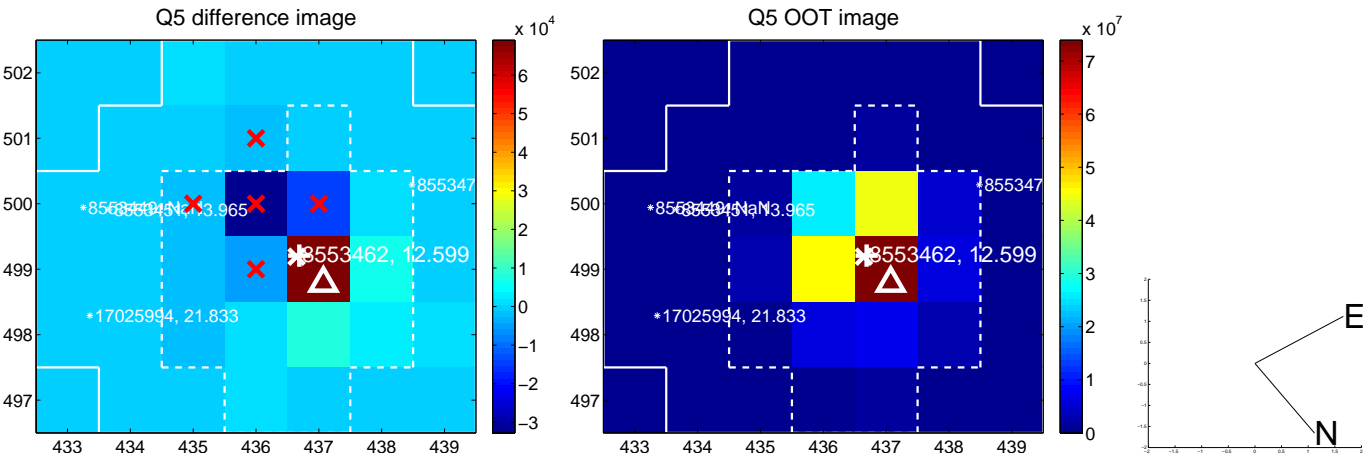


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

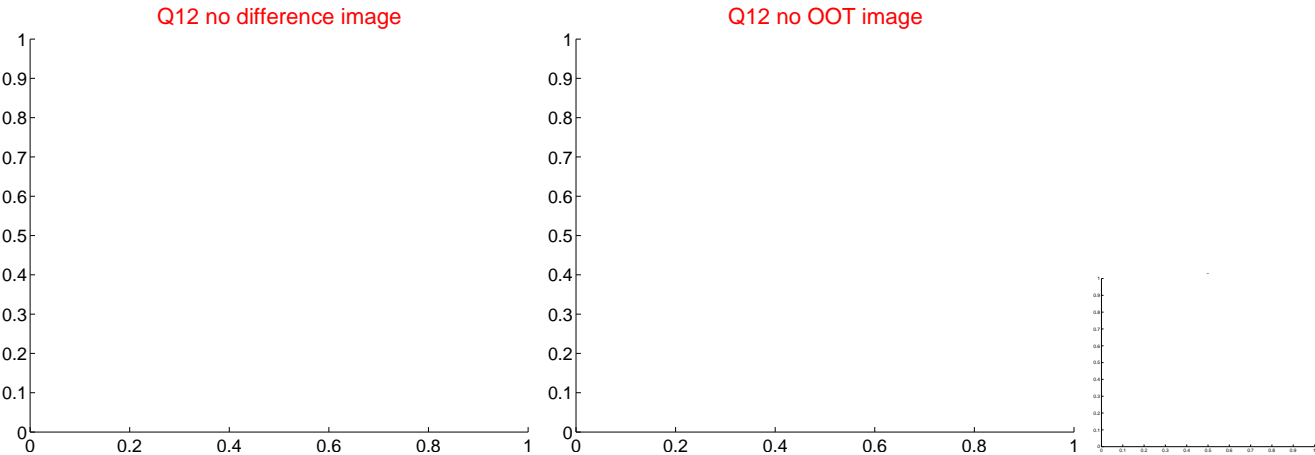
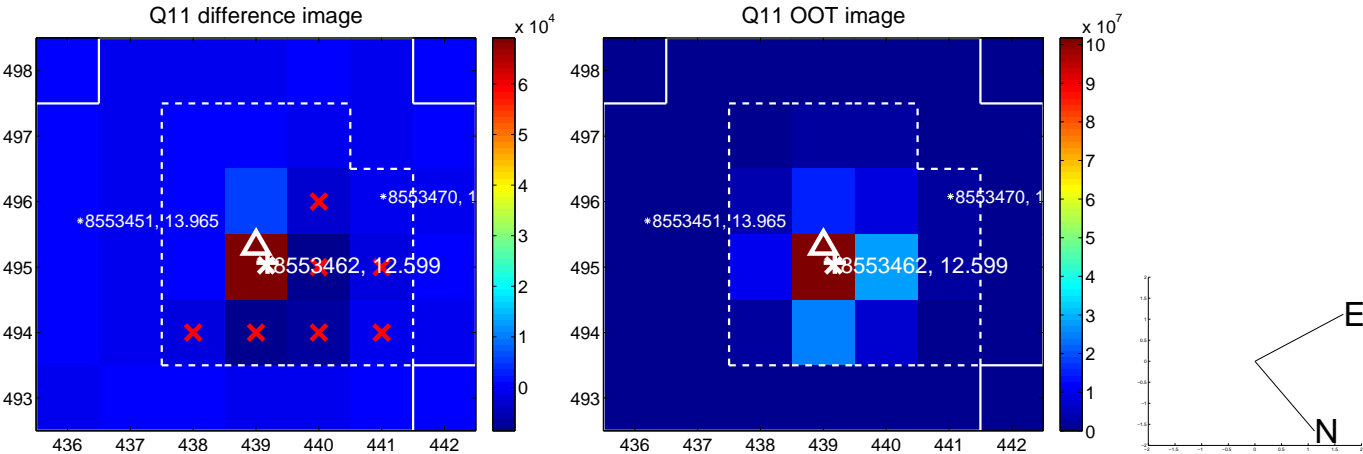
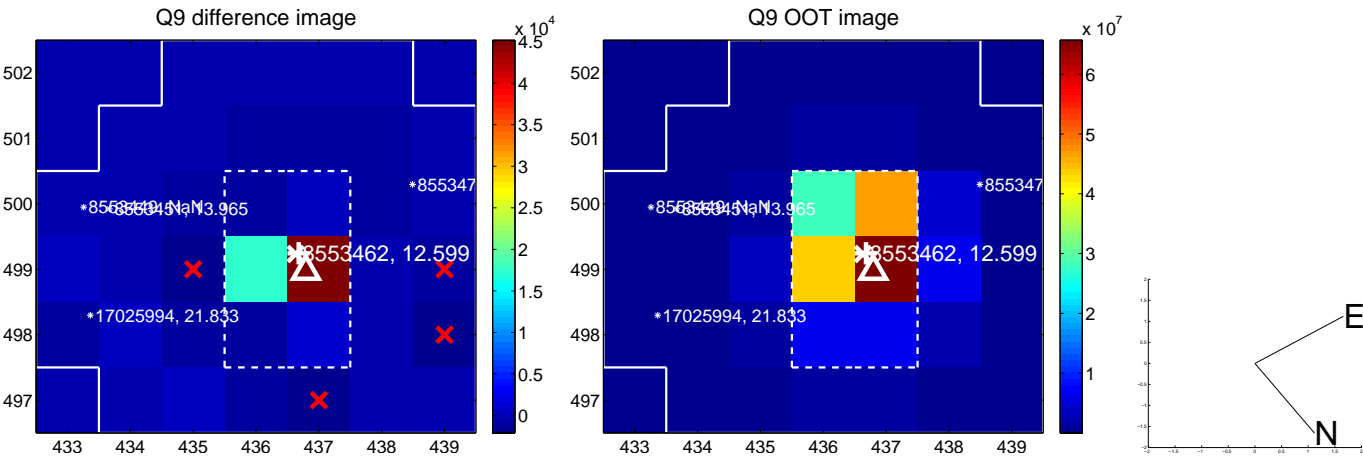
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



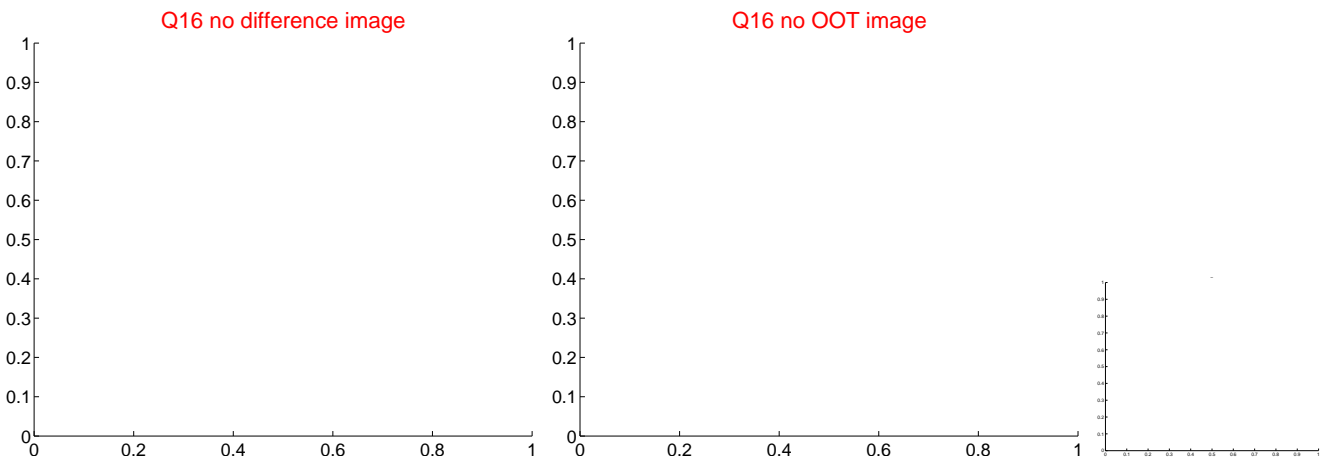
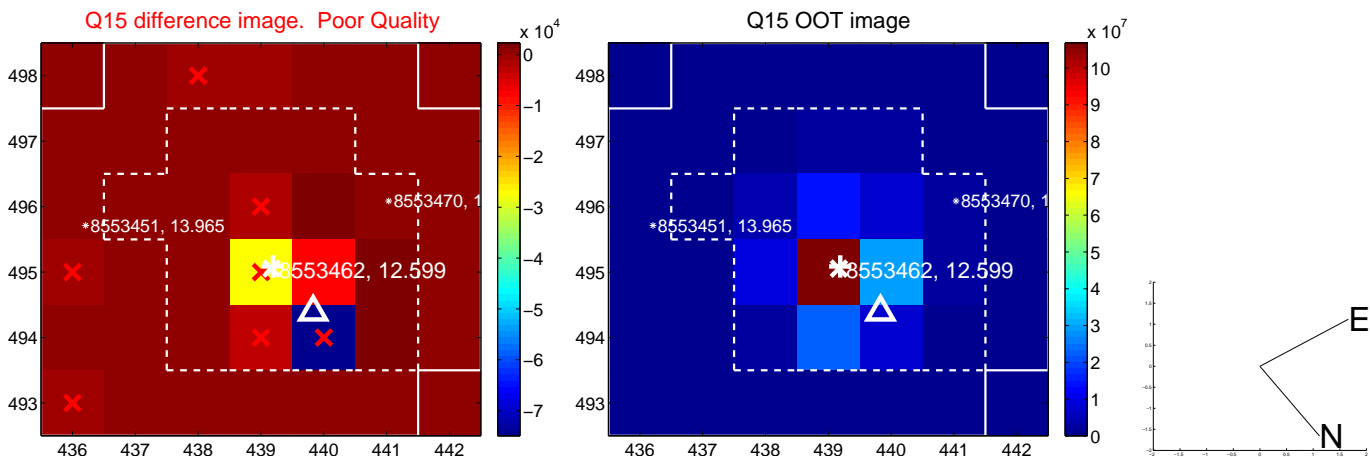
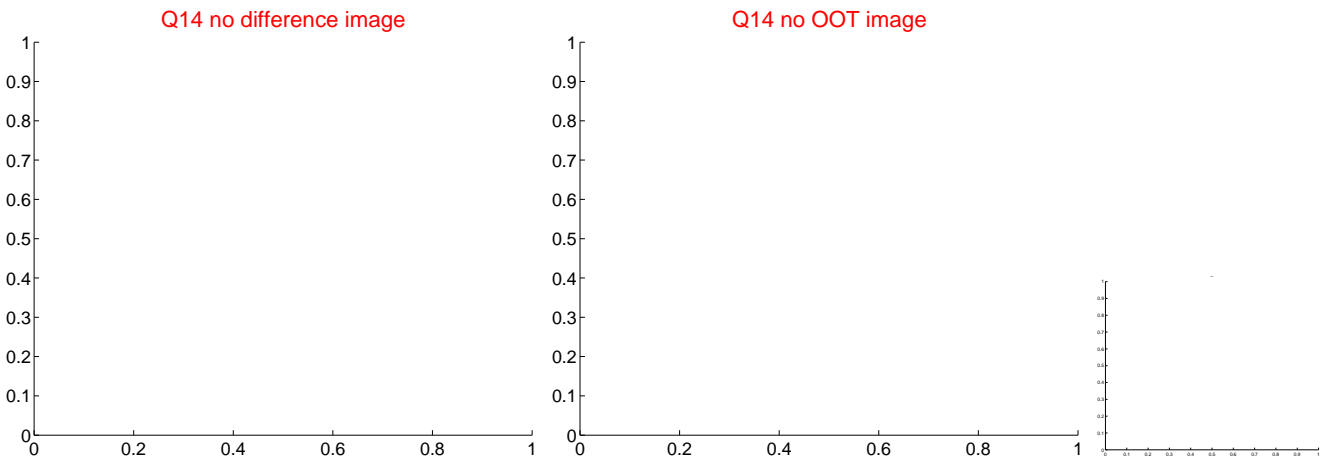
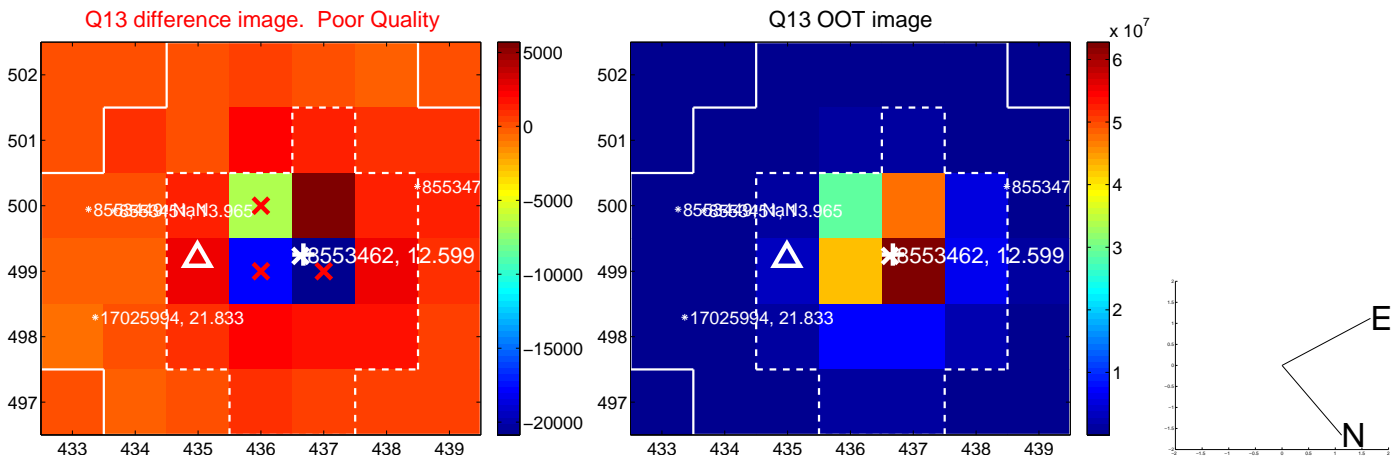
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



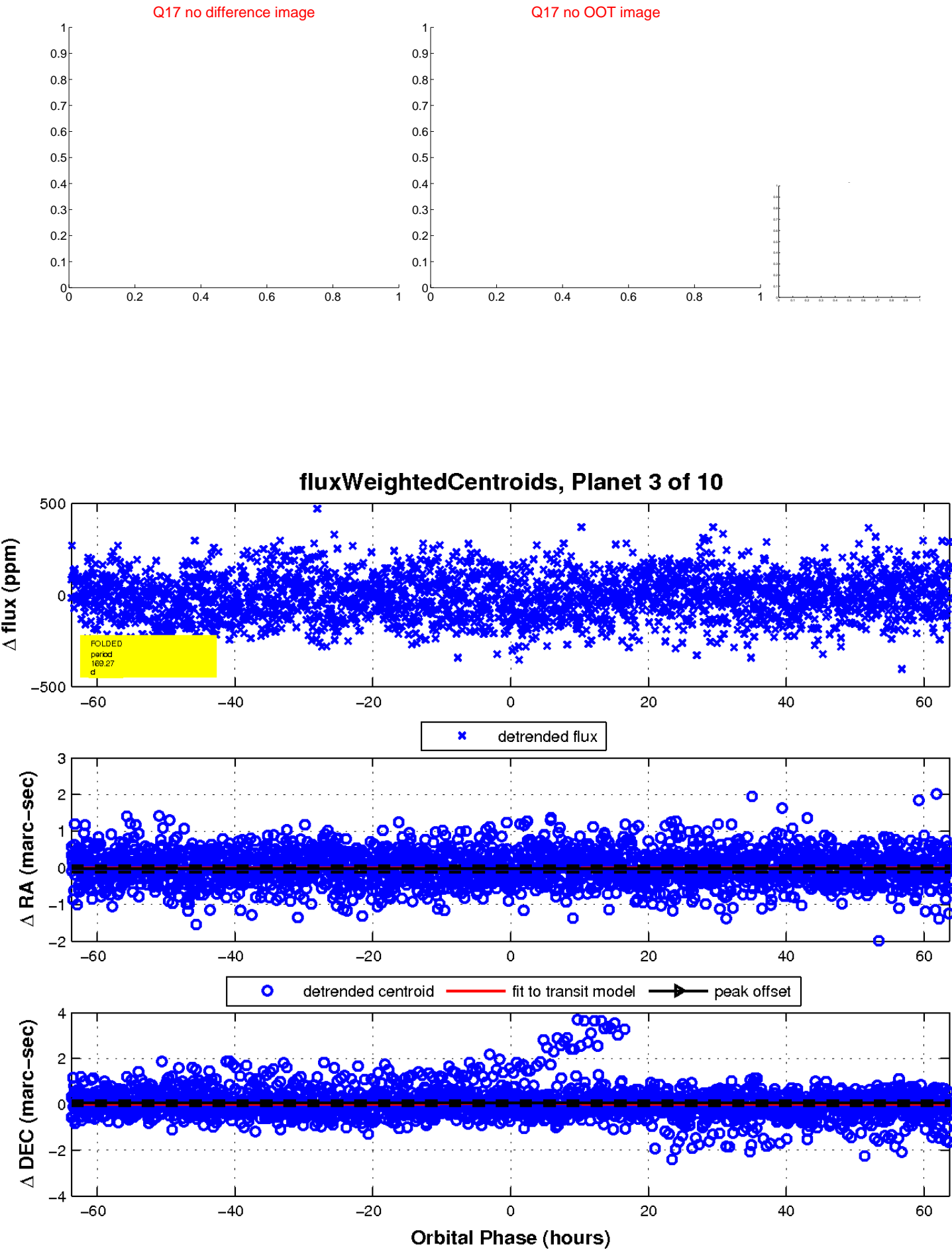
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

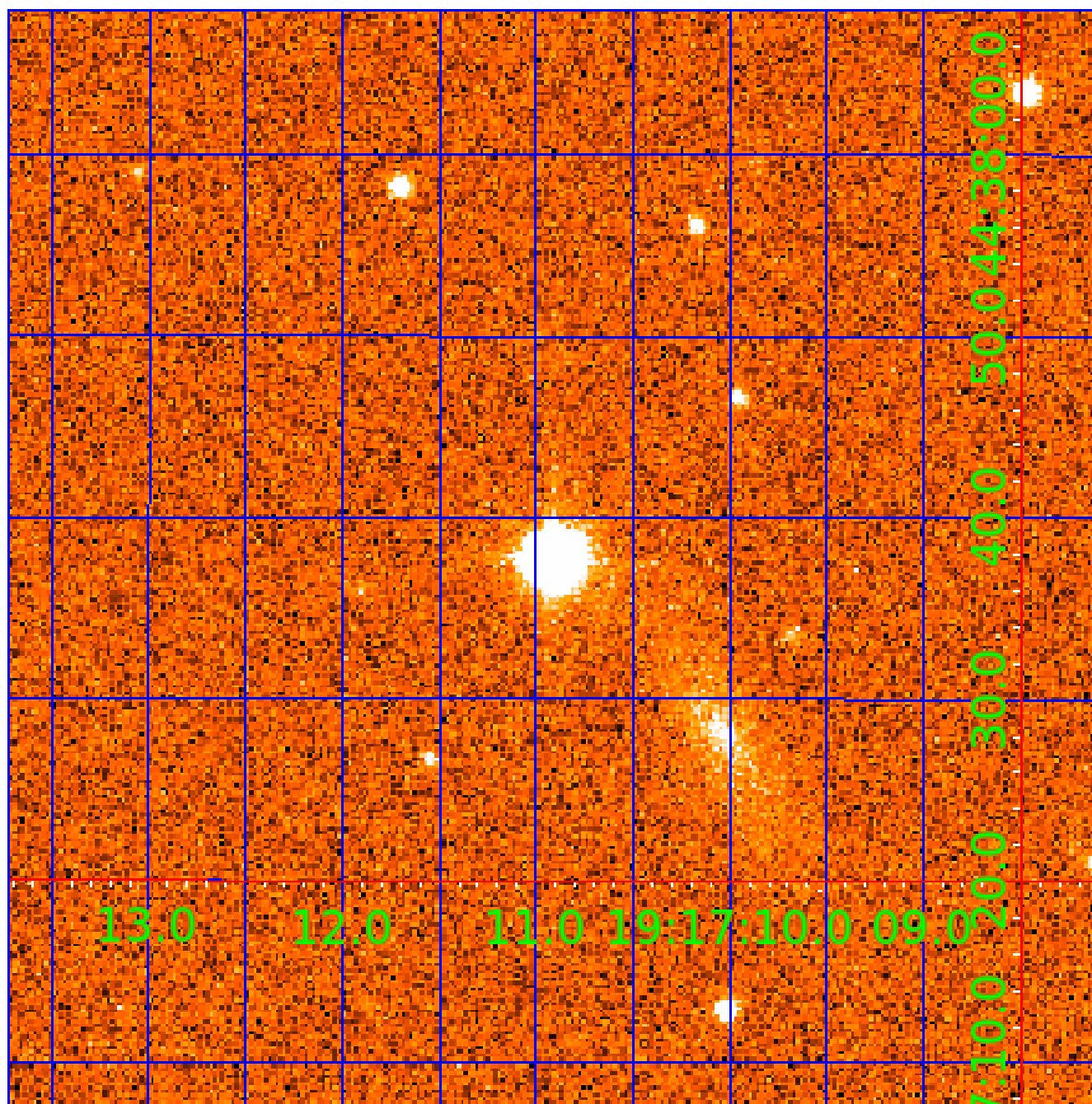


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008553462-01	OBS	No	2.768998	134.441172	0.0	18.950	9.1	0.0	1.84	7296	0.04	4252.50
008553462-02	OBS	No	168.691133	165.172770	602.2	19.886	24.6	22.0	1.84	7296	8.50	17.74
008553462-03	OBS	No	169.273644	193.500394	205.1	21.249	17.4	12.1	1.84	7296	2.77	17.66
008553462-04	OBS	No	215.902359	155.628727	135.2	9.415	10.6	10.0	1.84	7296	2.42	12.77
008553462-05	OBS	No	86.462681	131.957604	195.8	2.322	9.6	9.9	1.84	7296	2.98	43.25
008553462-06	OBS	No	15.001439	132.186756	73.2	5.330	8.7	10.2	1.84	7296	1.80	446.92
008553462-07	OBS	No	265.683201	389.849295	210.2	64.946	9.4	9.8	1.84	7296	2.93	9.68
008553462-08	OBS	No	82.624800	210.760893	185.7	2.972	9.0	8.8	1.84	7296	2.94	45.95
008553462-09	OBS	No	143.910724	263.113872	178.3	4.800	8.7	8.3	1.84	7296	2.86	21.93
008553462-10	OBS	No	42.186045	144.620372	281.0	1.500	9.1	-1.0	1.84	7296	3.14	112.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553462-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008553462-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

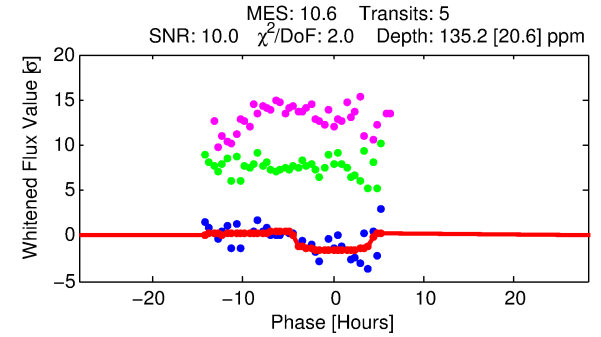
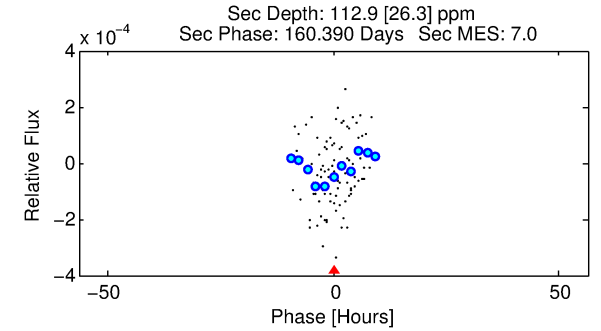
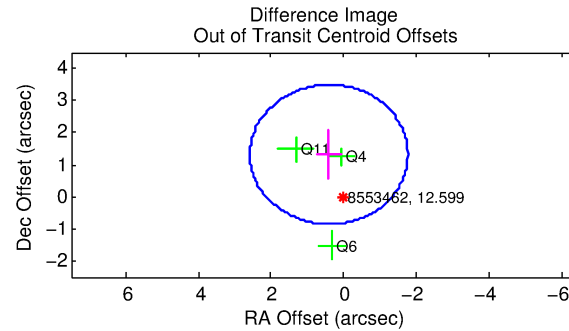
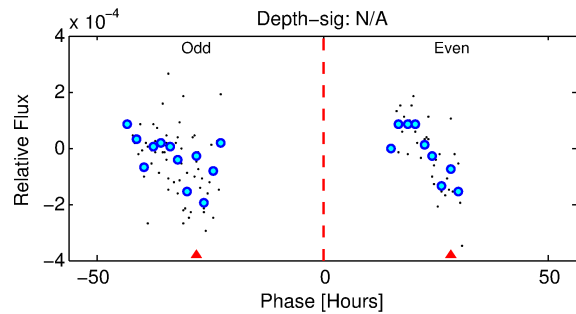
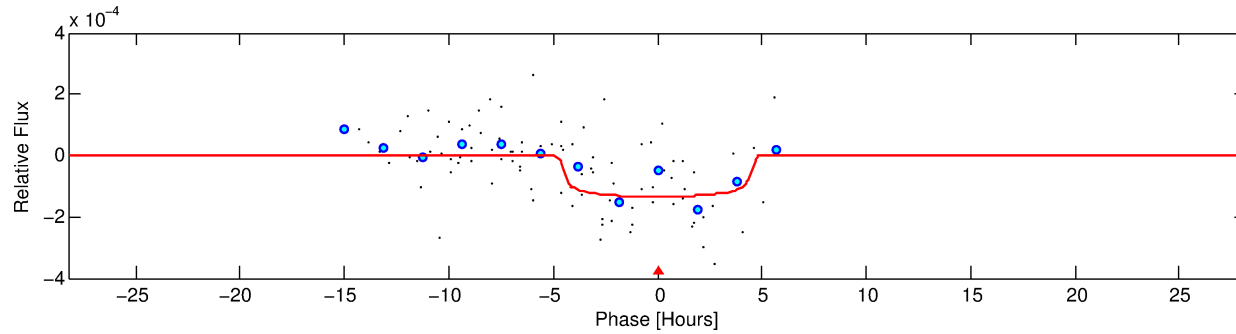
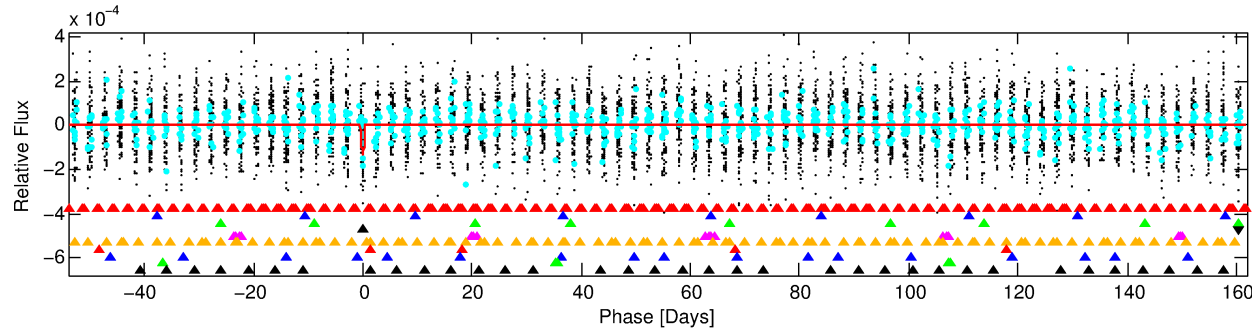
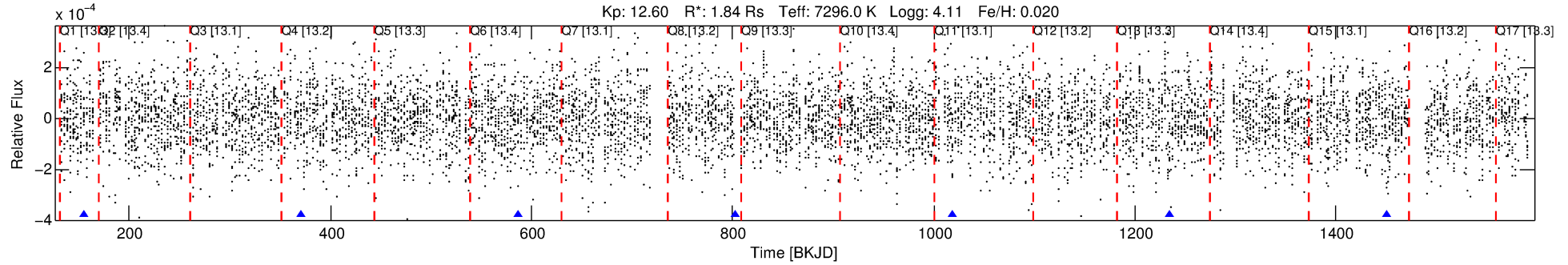
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-04

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 4 of 10 Period: 215.902 d



DV Fit Results:

Period = 215.90236 [0.00818] d
Epoch = 155.6287 [0.0389] BKJD
Rp/R* = 0.0120 [0.0059]
a/R* = 95.18 [286.93]
b = 0.85 [0.99]
Seff = 12.77 [4.99]
Teq = 482 [47] K
Rp = 2.42 [1.39] Re
a = 0.8223 [0.2032] AU
Ag = 7198.43 [7684.43] [0.94σ]
Teffp = 6864 [1757] K [3.63σ]

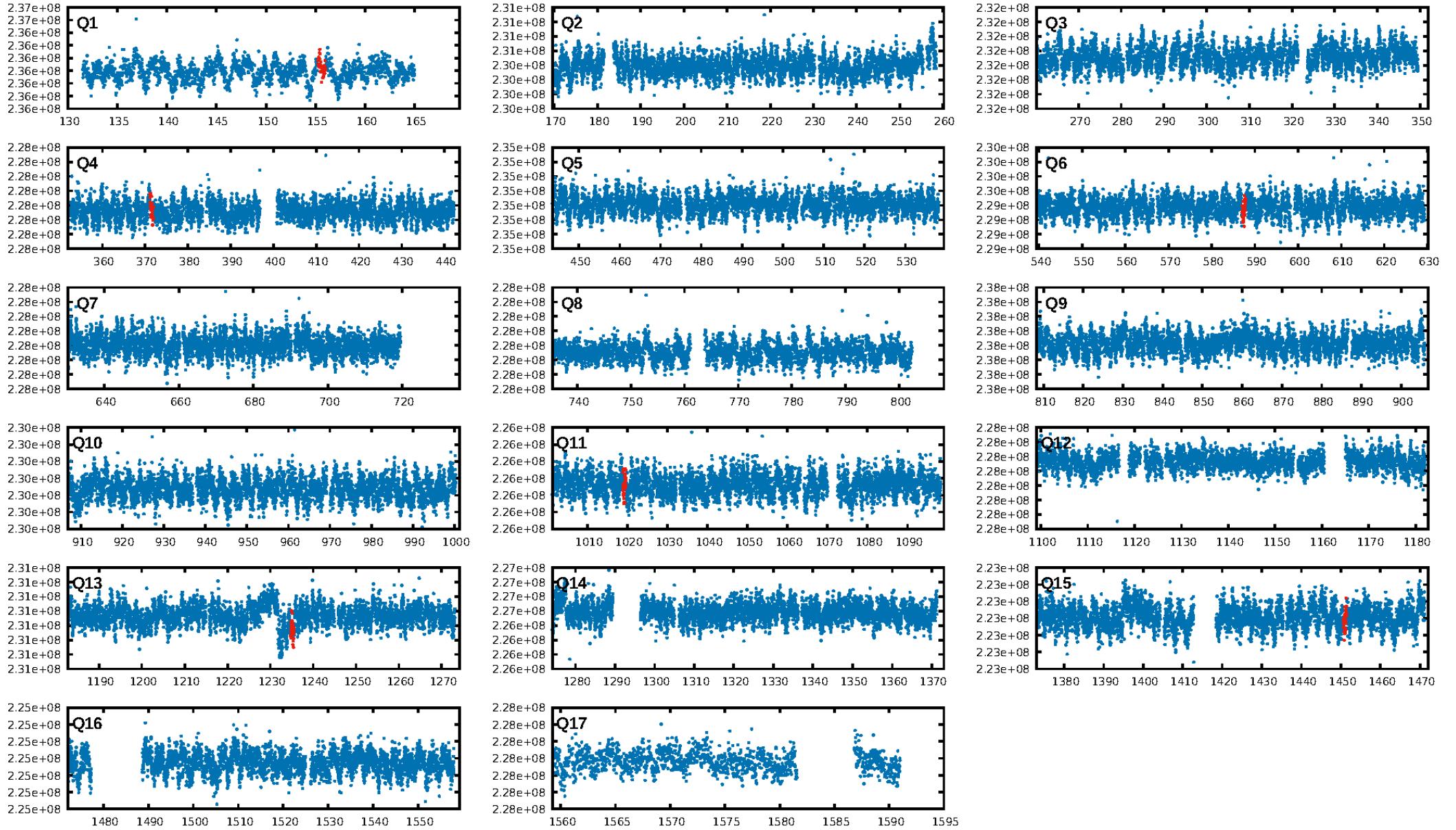
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [48.15σ]
LongPeriod-sig: 100.0% [18.21σ]
ModelChiSquare2-sig: 11.8%
ModelChiSquareGof-sig: 97.6%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -0.5576
Centroid-sig: 20.1%
Centroid-so: 1.384 arcsec [1.16σ]
OotOffset-rm: 1.377 arcsec [1.90σ]
KicOffset-rm: 1.397 arcsec [1.77σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 1.00 [3/3]
DiffImageOverlap-fno: 0.60 [3/5]

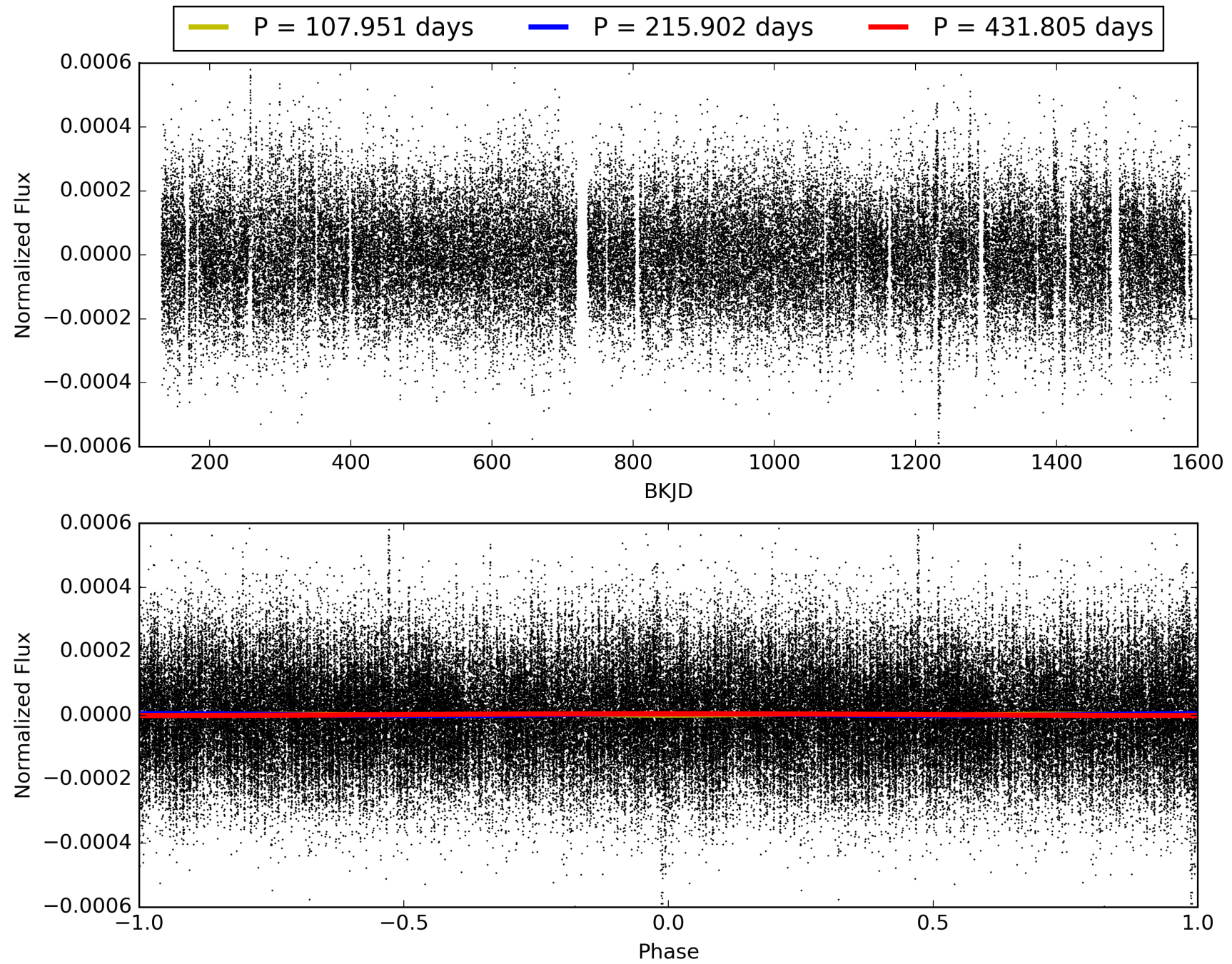
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:18:16 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008553462-04, PDC Light Curves

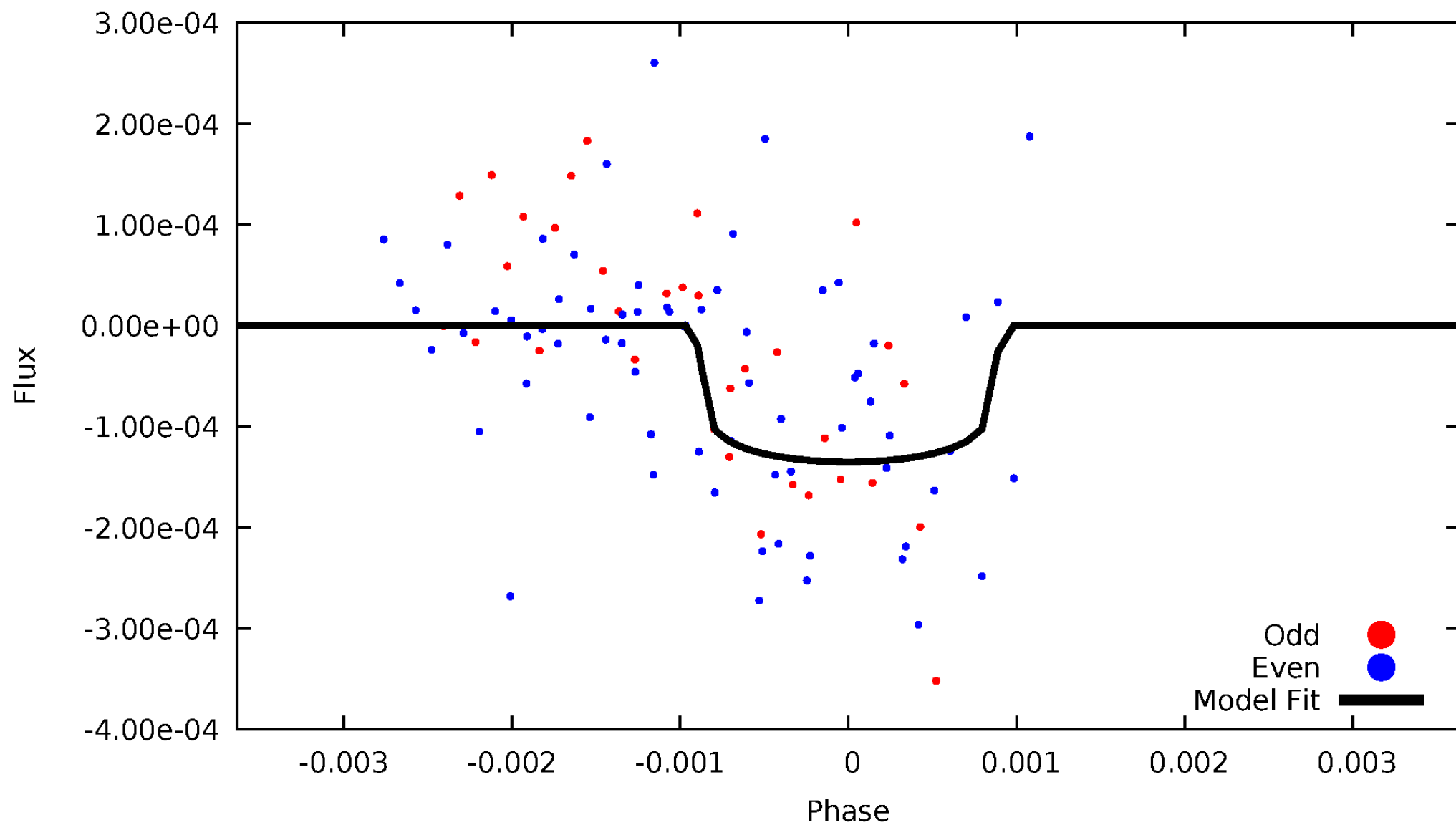


TCE 008553462-04



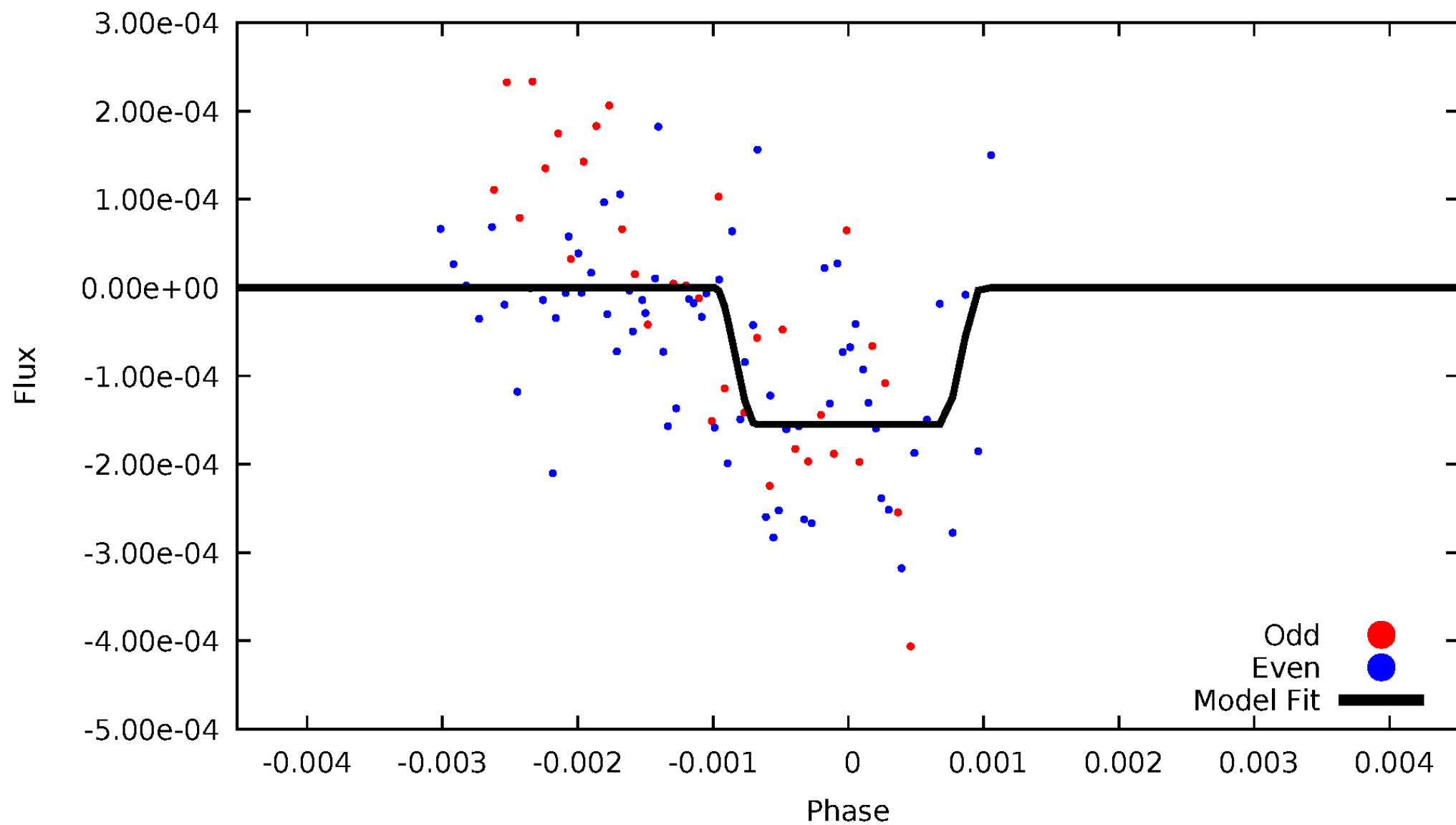
DV Odd/Even

TCE 008553462-04



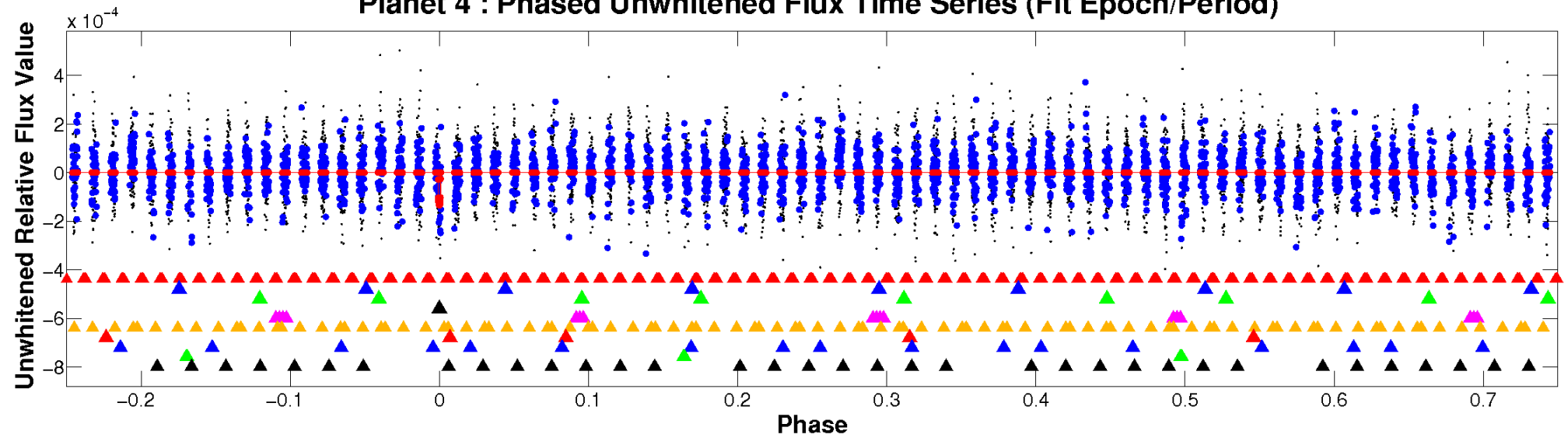
ALT Odd/Even

TCE 008553462-04

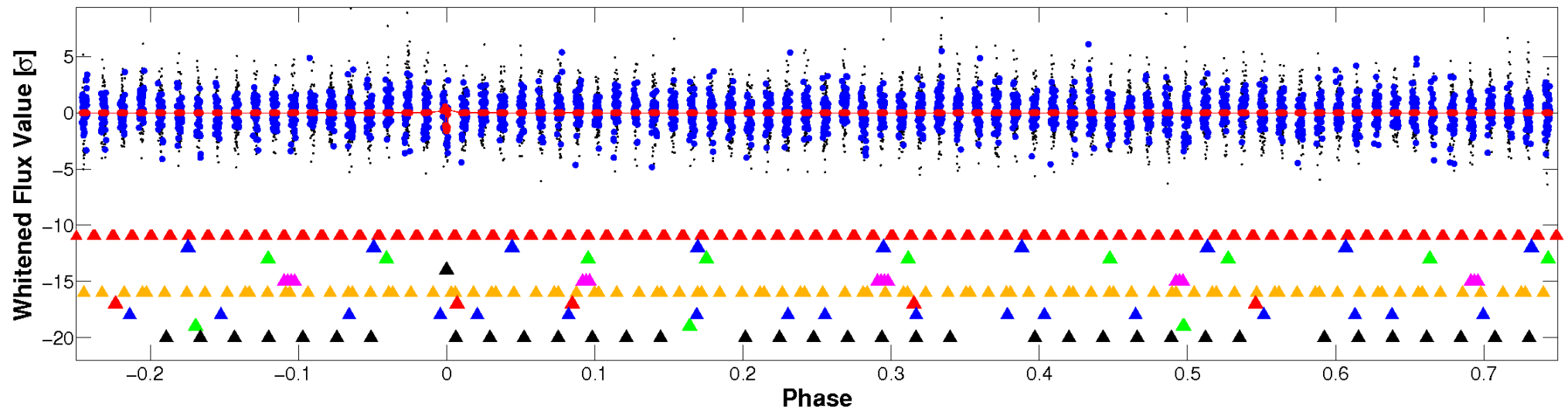


Non-Whitened Vs. Whitened Light Curve

Planet 4 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

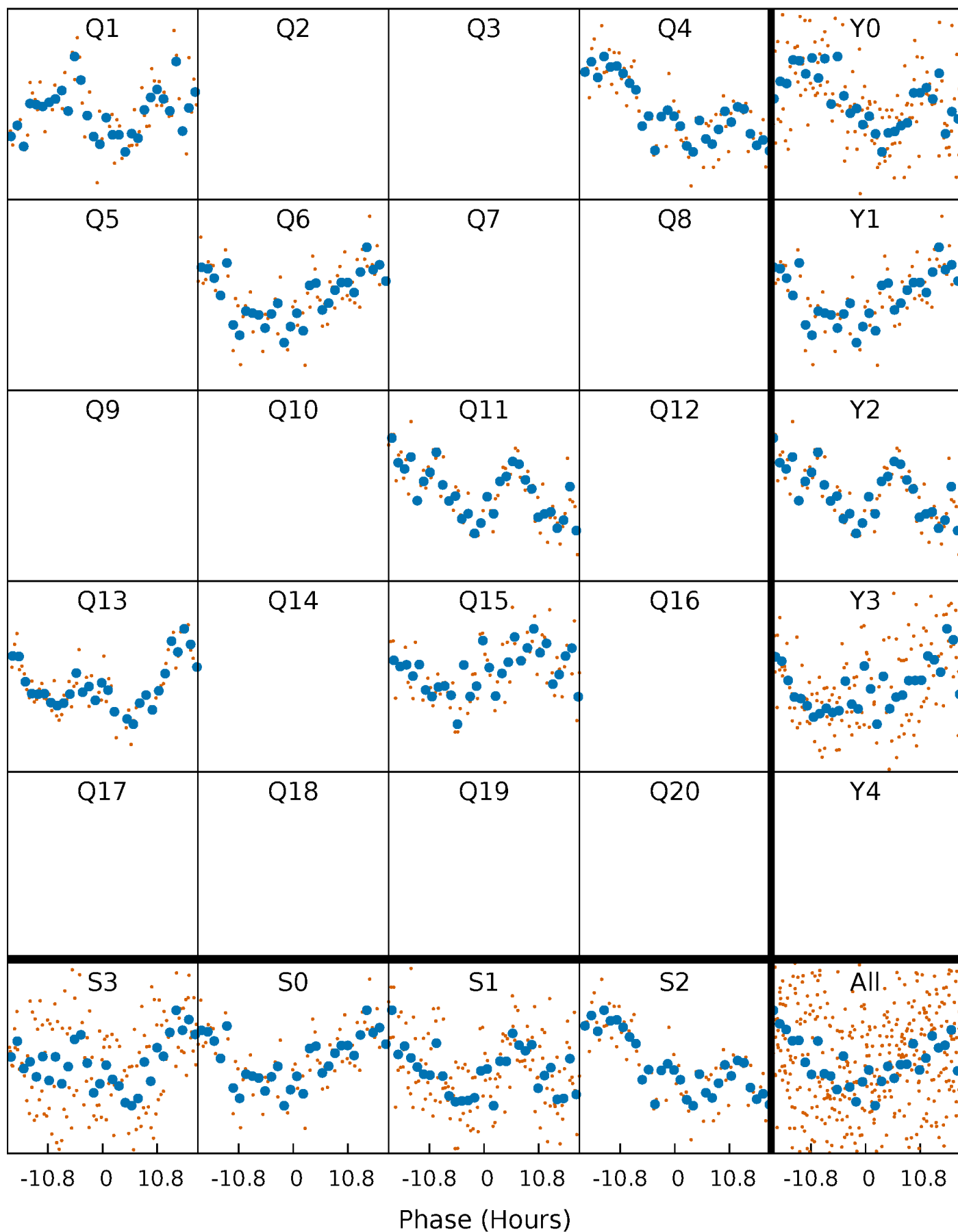


Planet 4 : Phased Whitened Flux Time Series (Fit Epoch/Period)



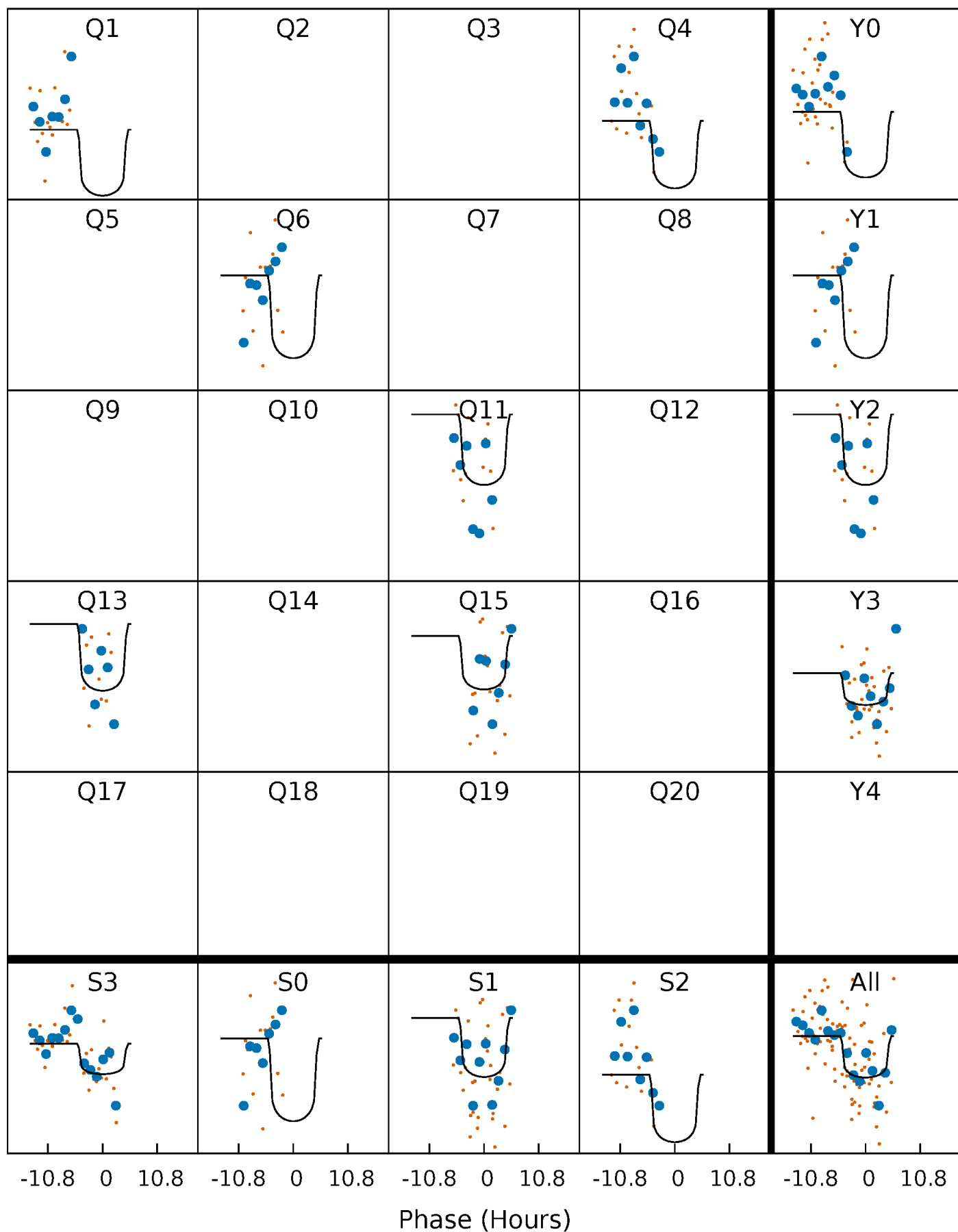
PDC Quarter-Phased Transit Curves

TCE 008553462-04 $P=215.902359$ Days $T_0=155.628727$ (BKJD)



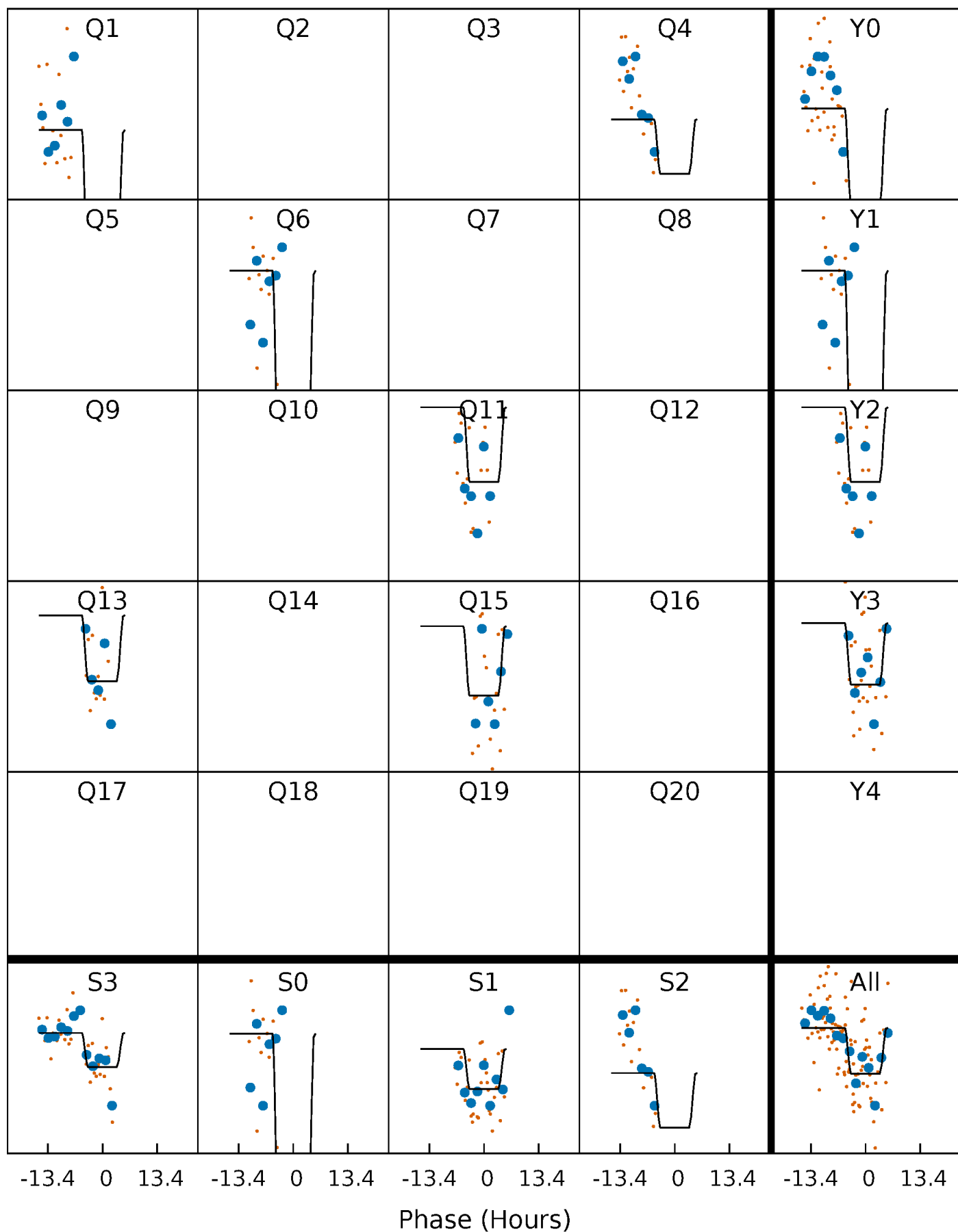
DV Quarter-Phased Transit Curves

TCE 008553462-04 P=215.902359 Days $T_0=155.628727$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

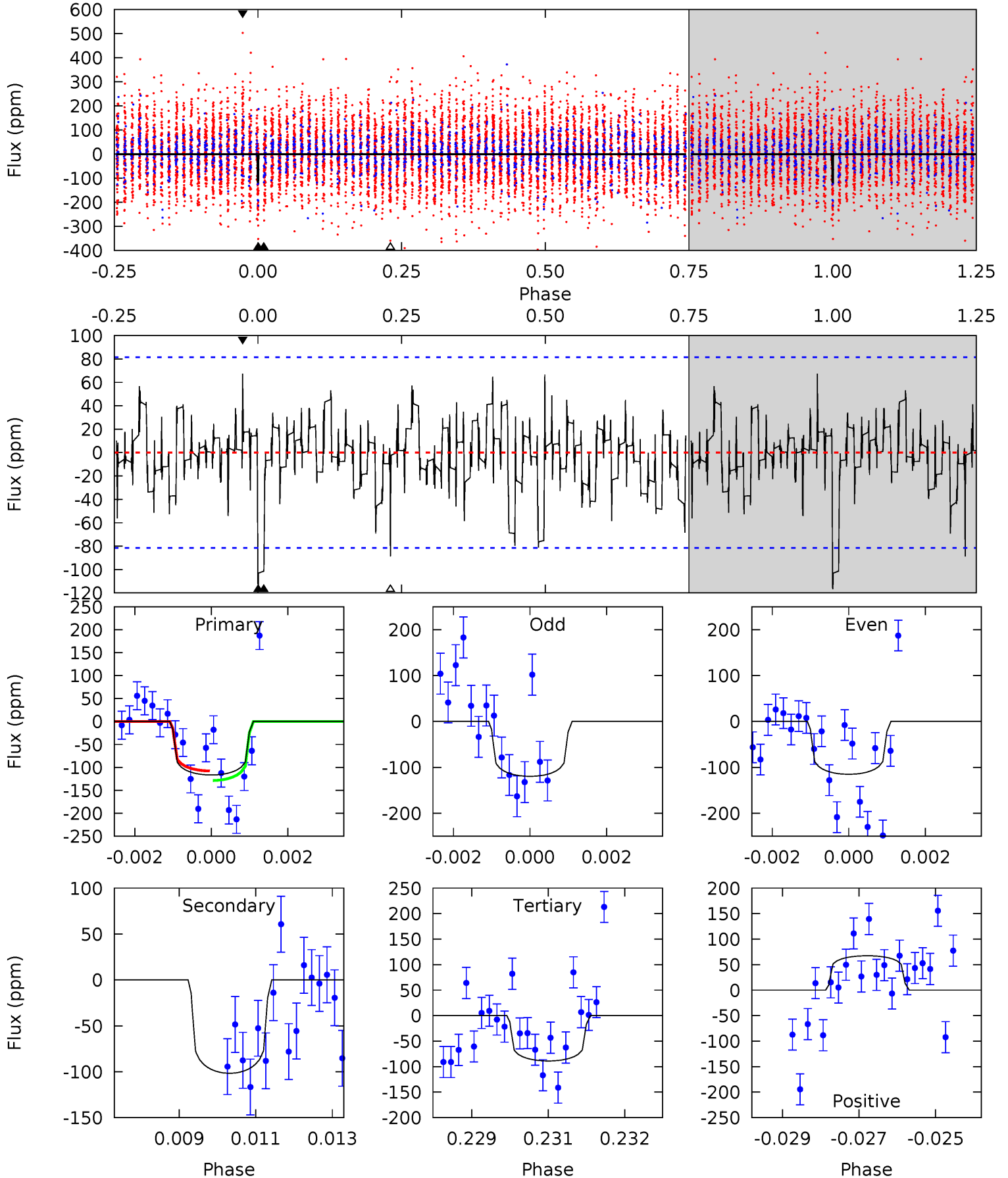
TCE 008553462-04 P=215.894184 Days $T_0=155.682896$ (BKJD)



DV Model-Shift Uniqueness Test

008553462-04, P = 215.902359 Days, E = 155.628727 Days

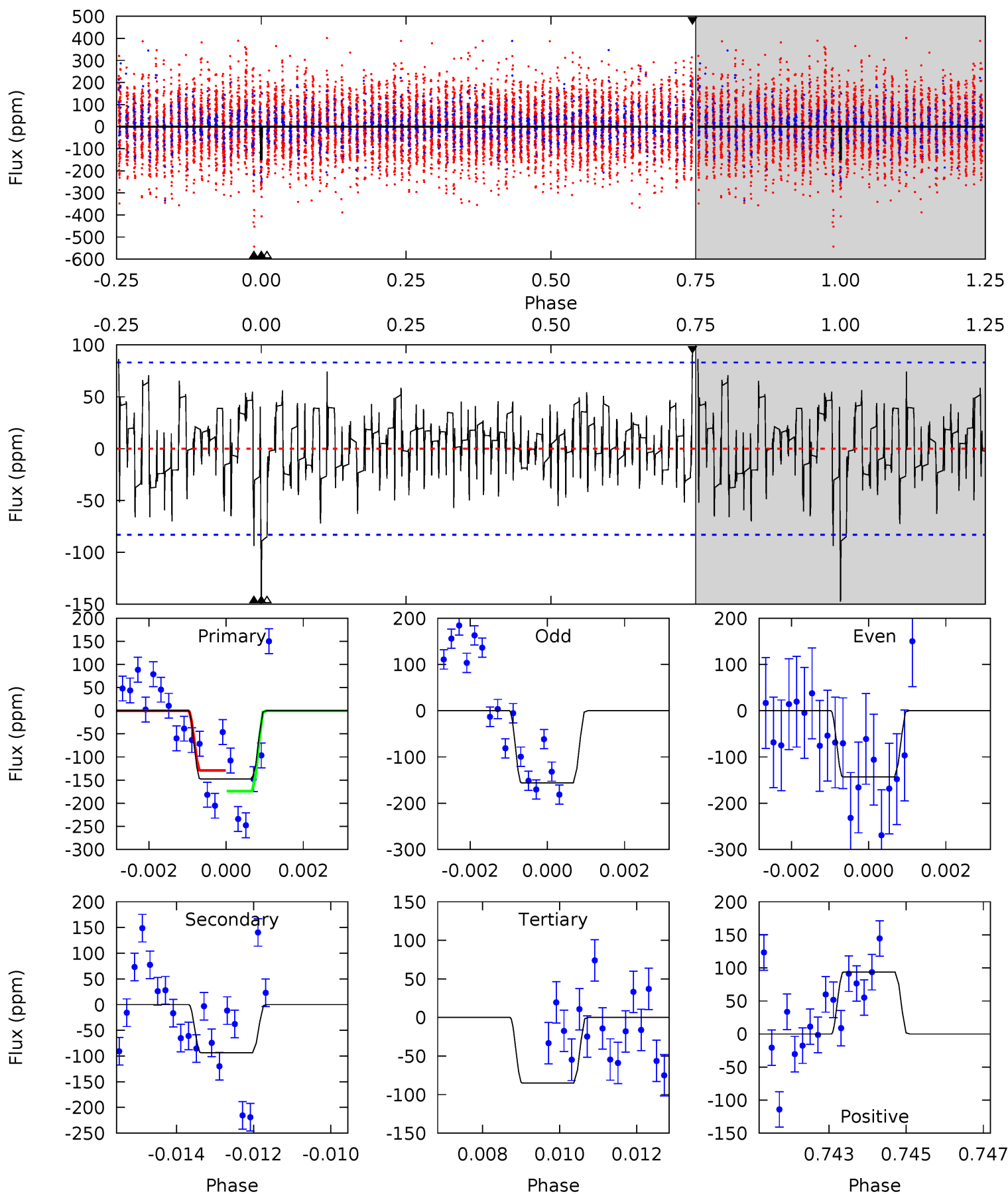
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.65	6.67	5.83	4.42	5.35	3.12	1.59	1.82	3.23	0.84	2.25	0.14	0.76	0.37	0.67



Alt Model-Shift Uniqueness Test

008553462-04, P = 215.894184 Days, E = 155.682896 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.46	6.00	5.44	6.00	5.33	3.09	1.63	4.01	3.45	0.56	-0.00	0.38	0.77	0.39	1.40



Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-04 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-102 ± 15	$2.50^{+1.17}_{-1.22}$	676^{+52}_{-46}	6496^{+3218}_{-1112}	5944^{+16762}_{-3246}
Alt.	-94 ± 16	$2.55^{+1.27}_{-1.17}$	675^{+54}_{-52}	6318^{+2616}_{-1155}	5236^{+12444}_{-2961}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

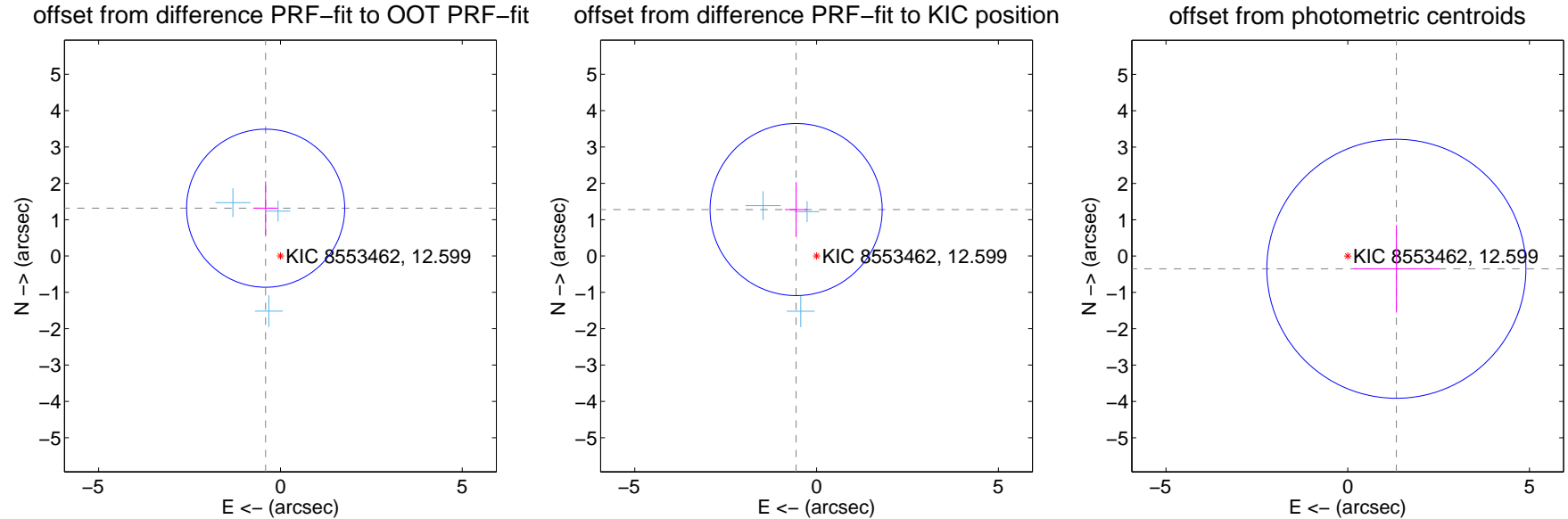
DV Centroid Data

Supplemental centroid analysis for 008553462-04. Kepler magnitude: 12.60. Transit SNR 10.03

There are 3 quarters with good PRF difference image offsets

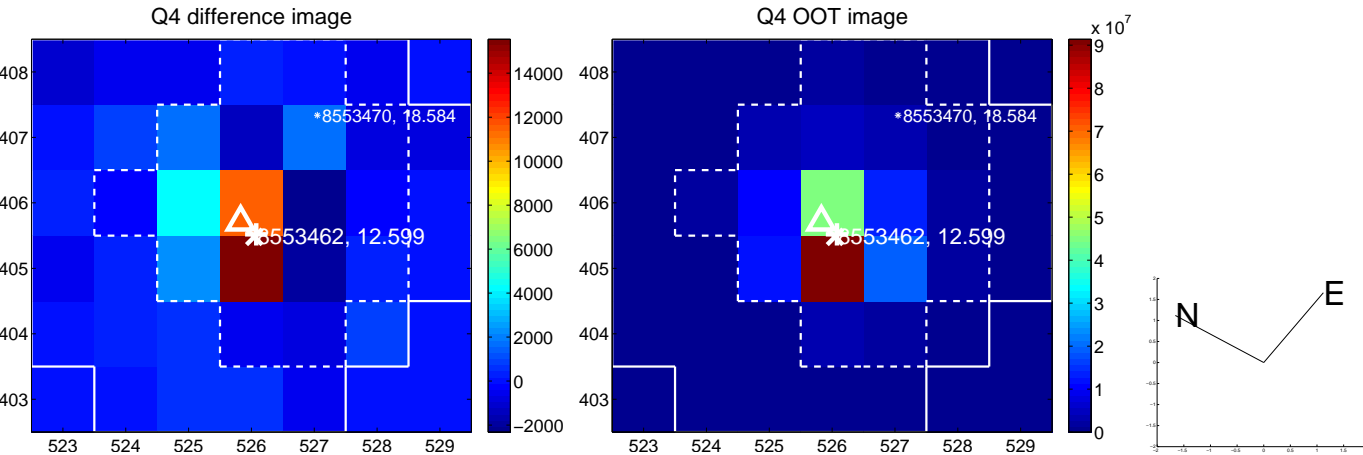
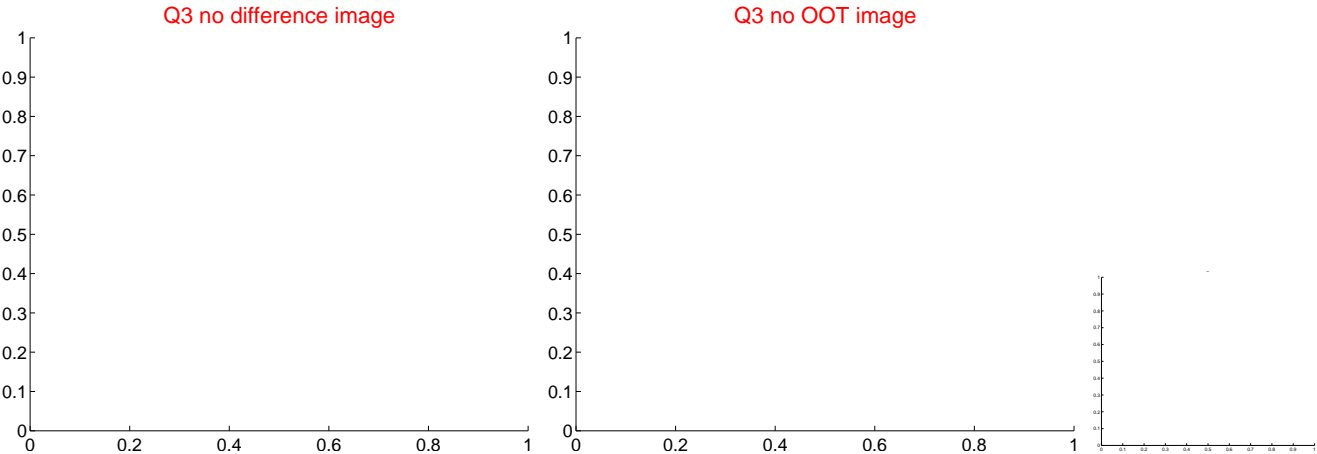
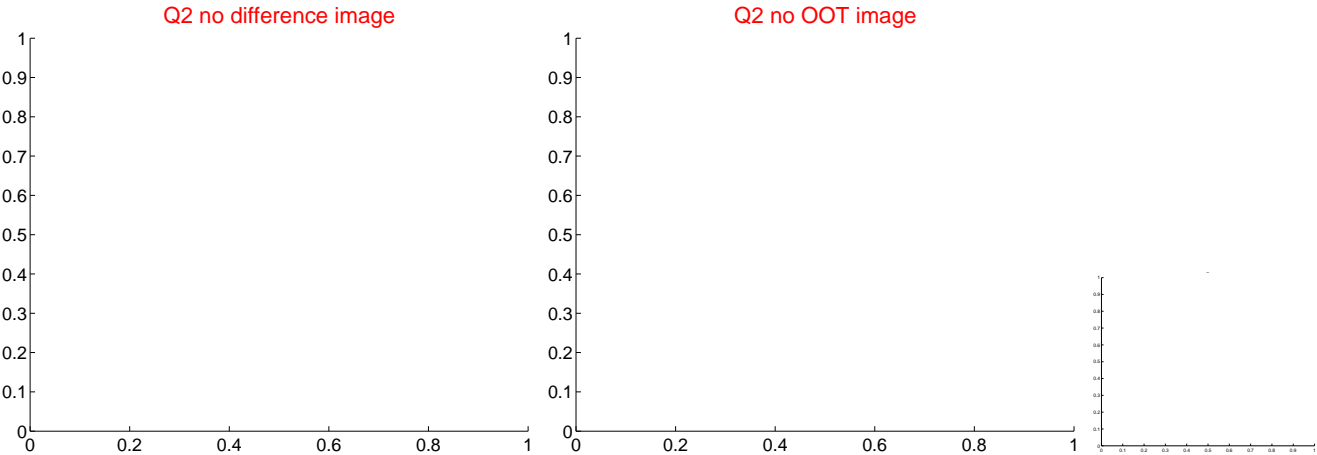
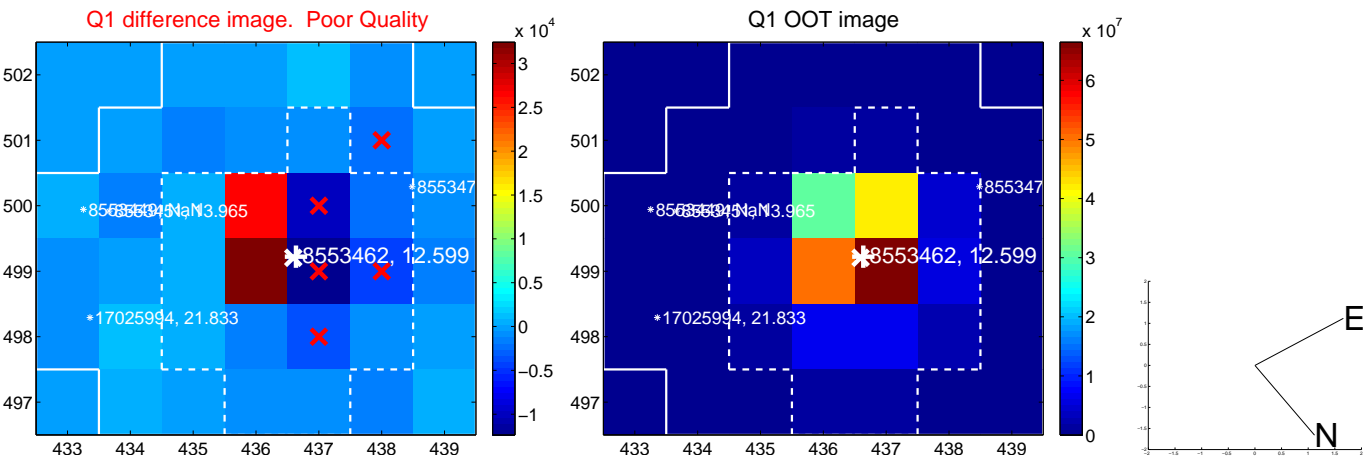
The direct PRF centroid is offset from the target star catalog position by about 0.18 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.377 ± 0.725	1.90	0.408 ± 0.342	1.316 ± 0.738
PRF-fit source offset from KIC position	1.397 ± 0.789	1.77	0.563 ± 0.308	1.279 ± 0.755
photometric centroid source offset	1.38 ± 1.19	1.16	-1.34 ± 1.19	-0.35 ± 1.21

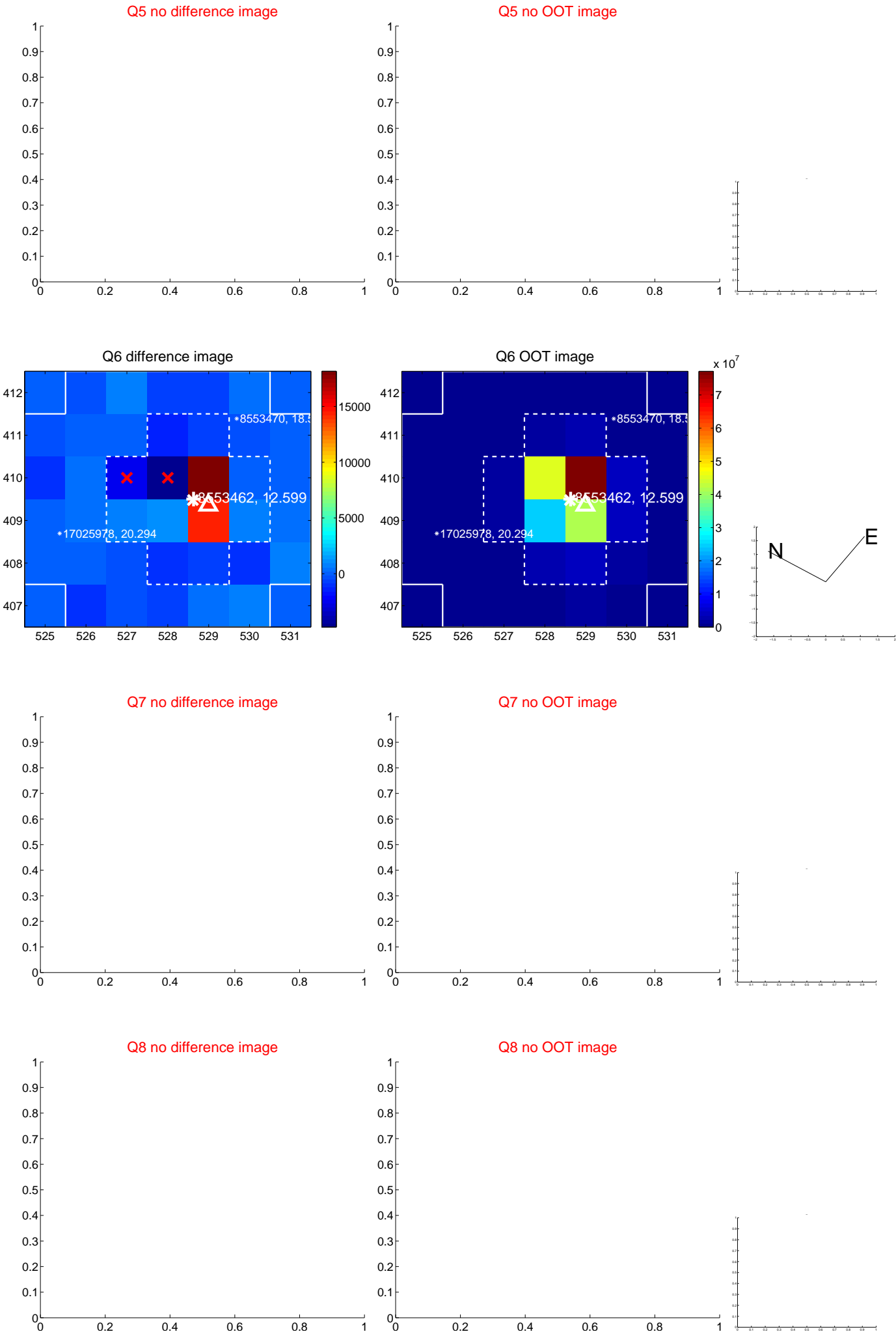


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

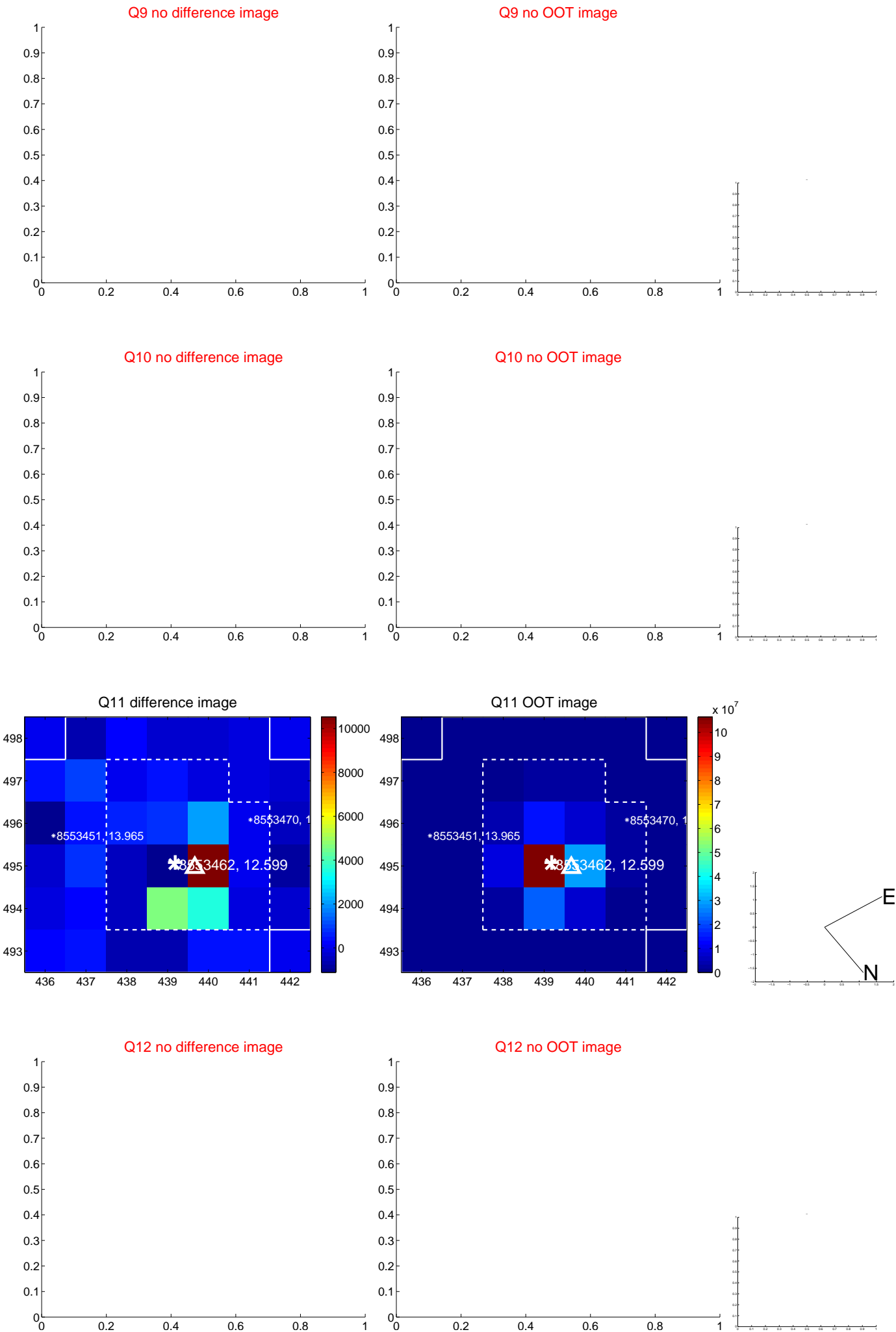
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



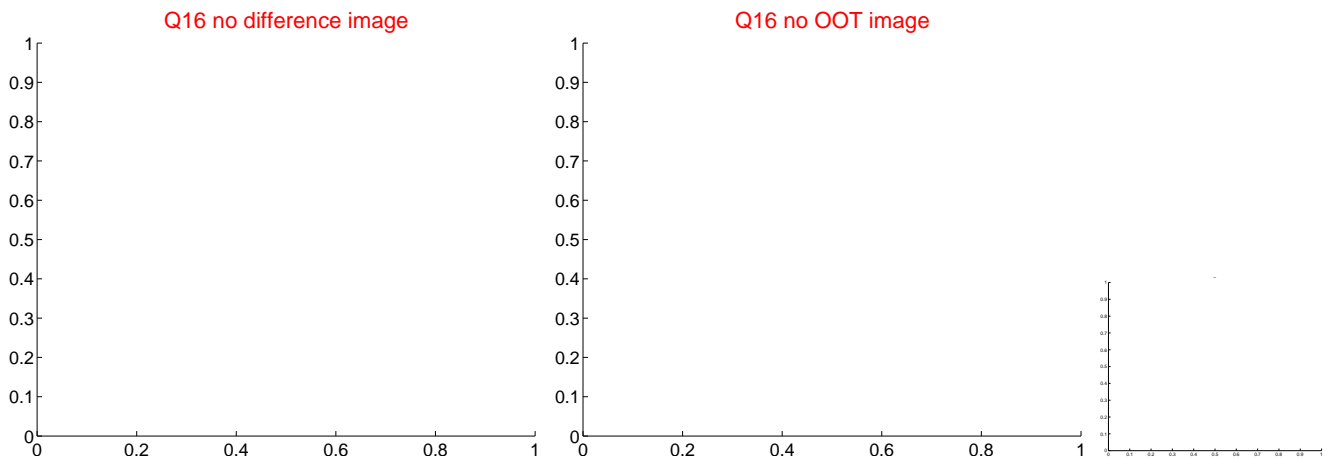
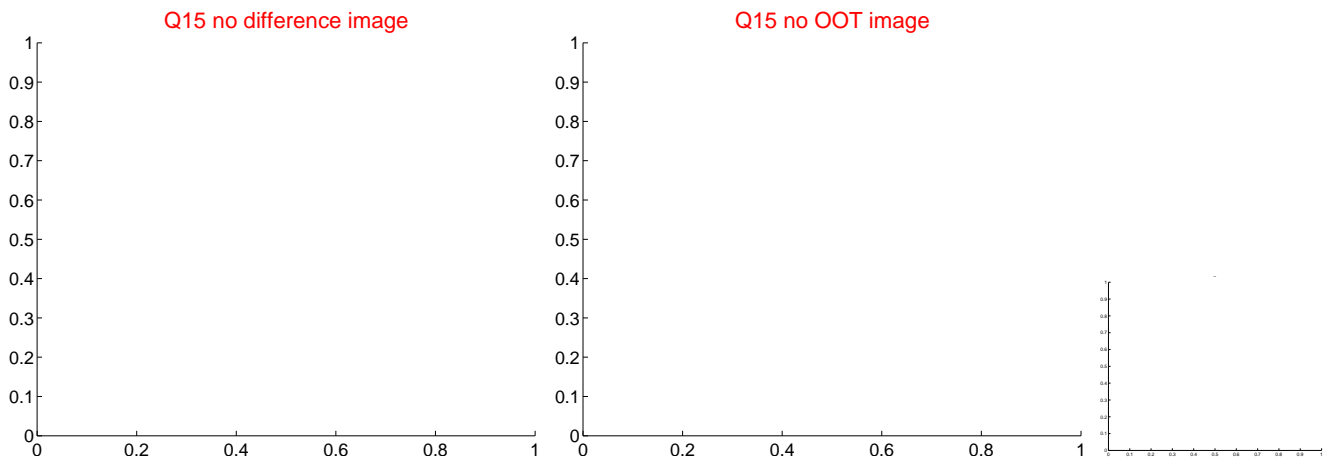
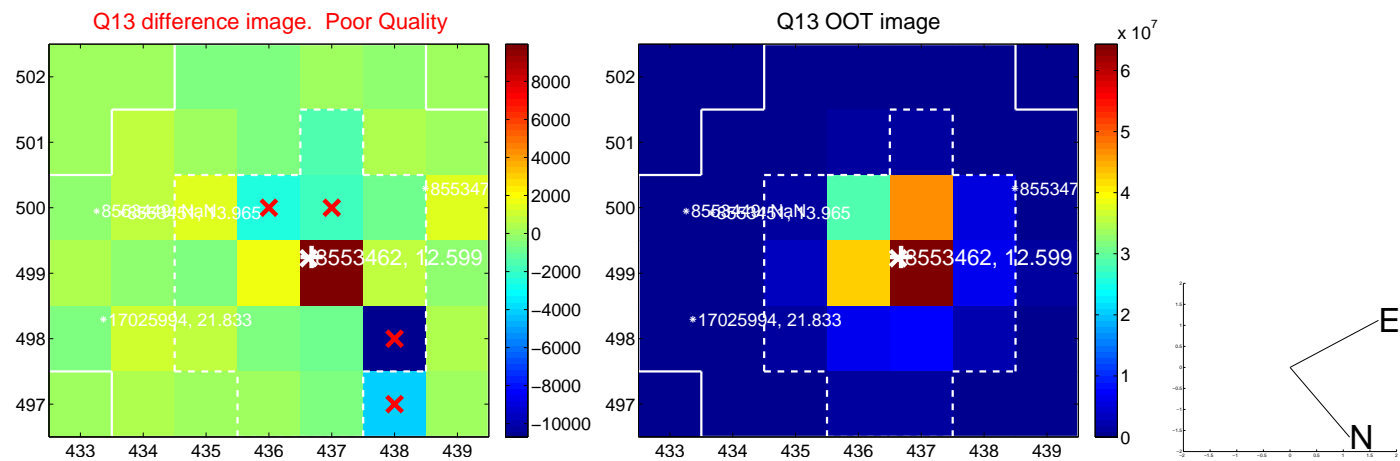
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



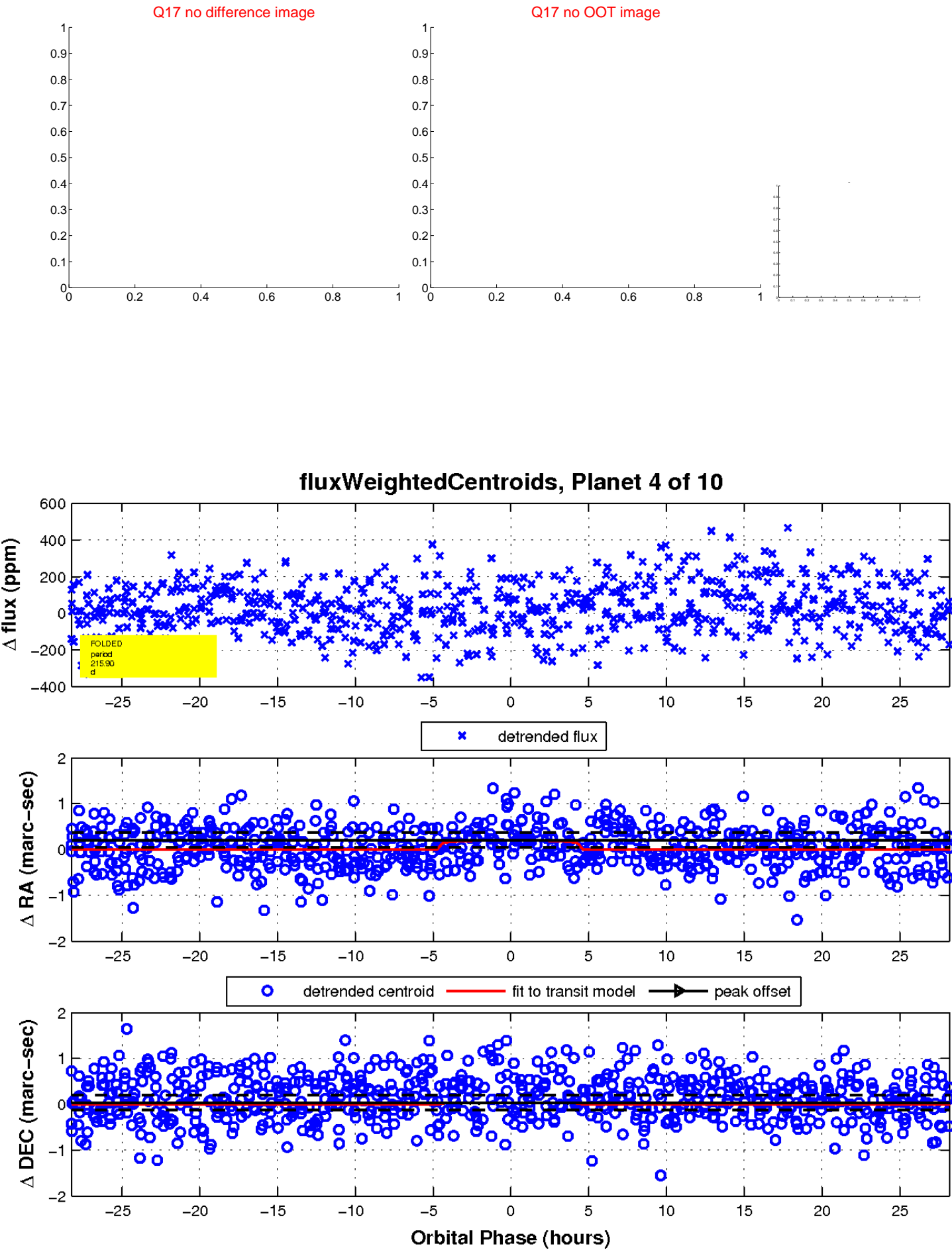
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white ×: KIC target position; +: OOT centroid; △: difference centroid. red ✕: large negative pixel value.

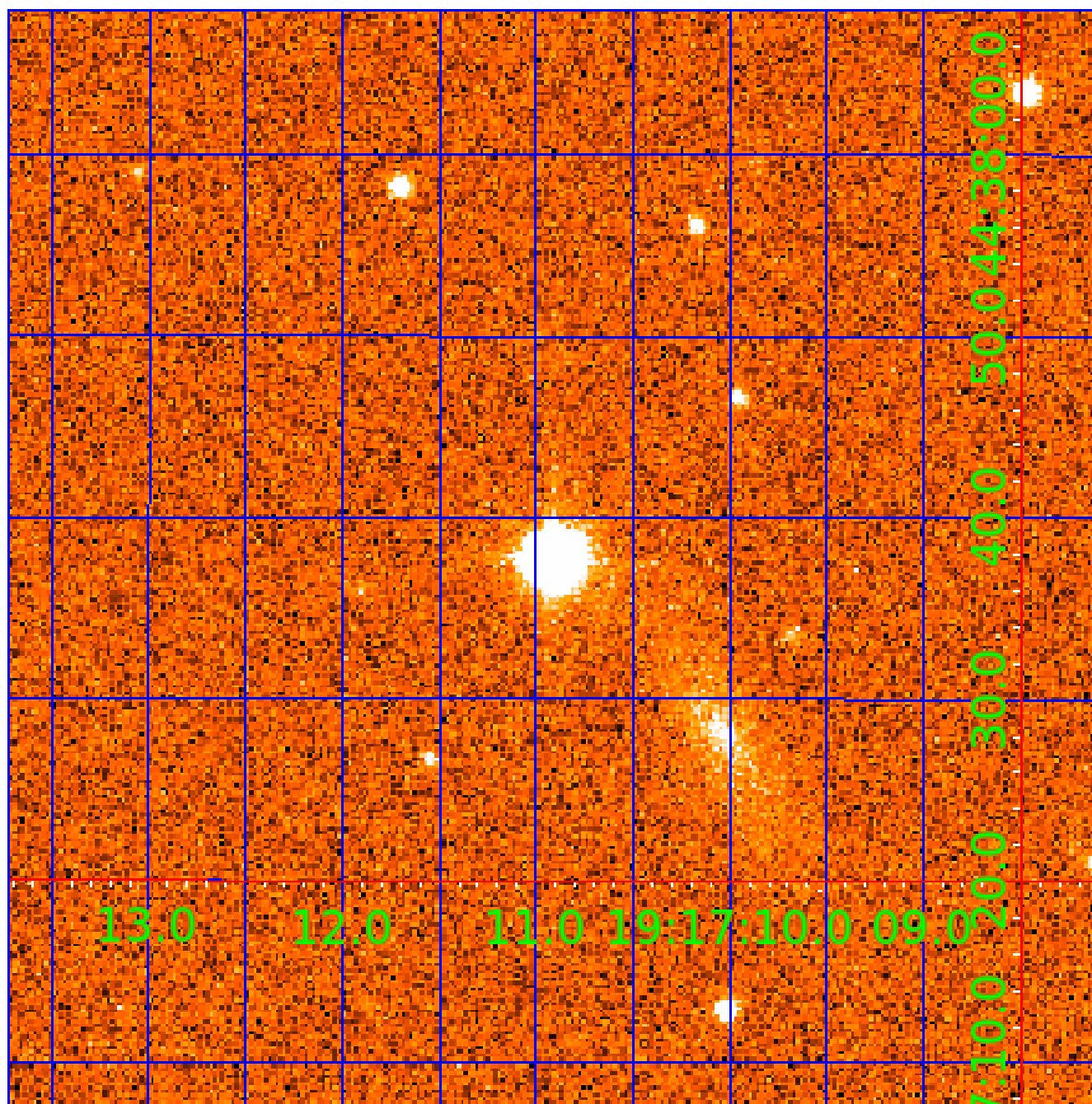


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008553462-01	OBS	No	2.768998	134.441172	0.0	18.950	9.1	0.0	1.84	7296	0.04	4252.50
008553462-02	OBS	No	168.691133	165.172770	602.2	19.886	24.6	22.0	1.84	7296	8.50	17.74
008553462-03	OBS	No	169.273644	193.500394	205.1	21.249	17.4	12.1	1.84	7296	2.77	17.66
008553462-04	OBS	No	215.902359	155.628727	135.2	9.415	10.6	10.0	1.84	7296	2.42	12.77
008553462-05	OBS	No	86.462681	131.957604	195.8	2.322	9.6	9.9	1.84	7296	2.98	43.25
008553462-06	OBS	No	15.001439	132.186756	73.2	5.330	8.7	10.2	1.84	7296	1.80	446.92
008553462-07	OBS	No	265.683201	389.849295	210.2	64.946	9.4	9.8	1.84	7296	2.93	9.68
008553462-08	OBS	No	82.624800	210.760893	185.7	2.972	9.0	8.8	1.84	7296	2.94	45.95
008553462-09	OBS	No	143.910724	263.113872	178.3	4.800	8.7	8.3	1.84	7296	2.86	21.93
008553462-10	OBS	No	42.186045	144.620372	281.0	1.500	9.1	-1.0	1.84	7296	3.14	112.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553462-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008553462-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

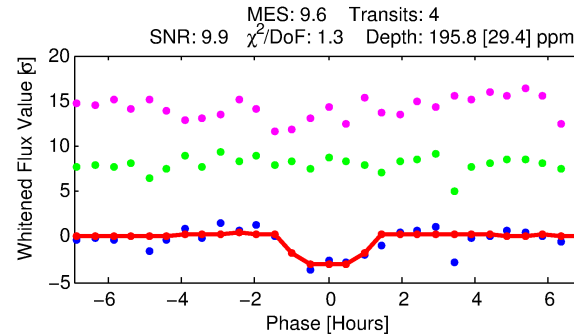
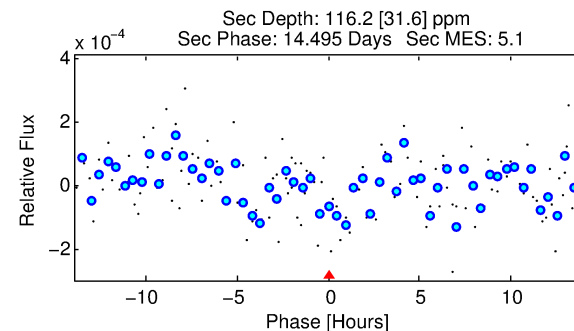
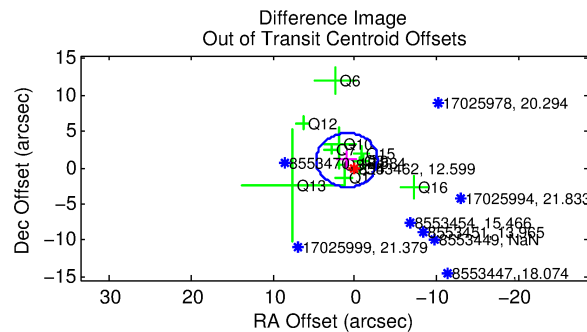
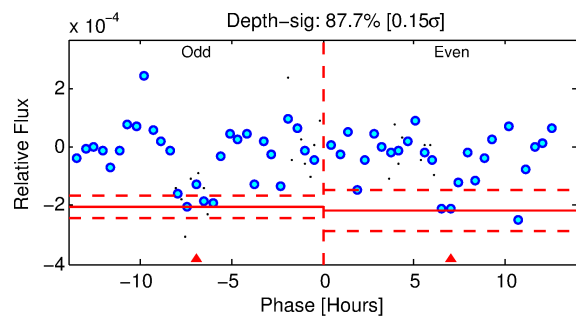
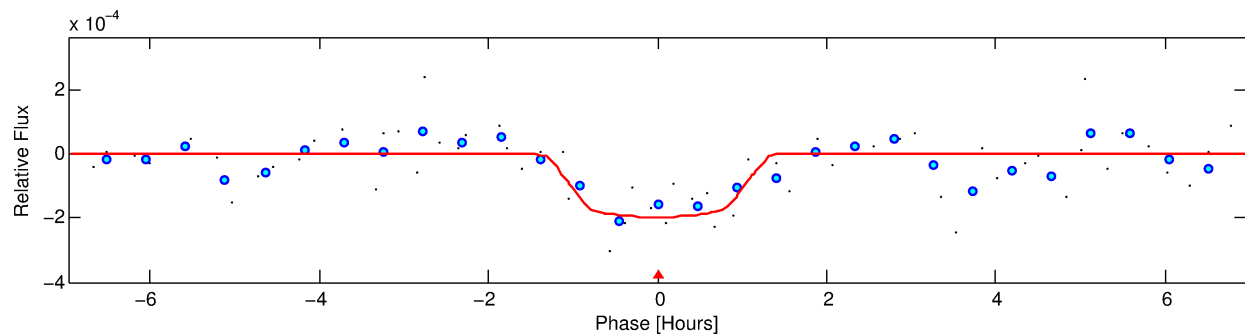
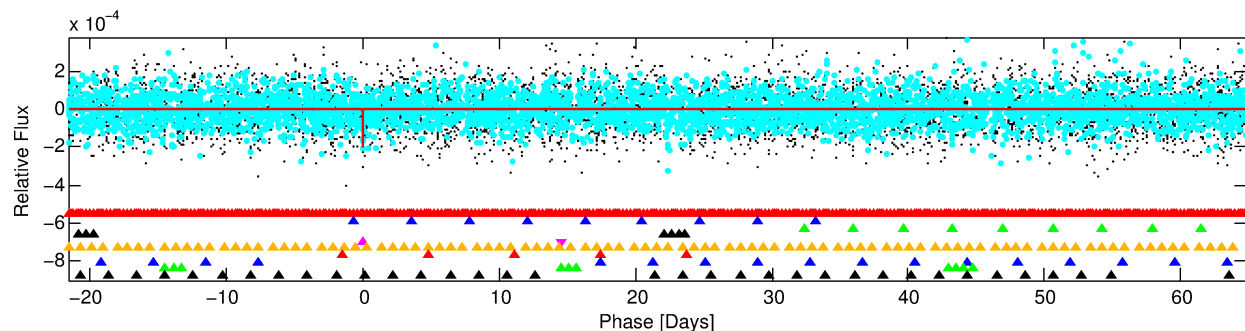
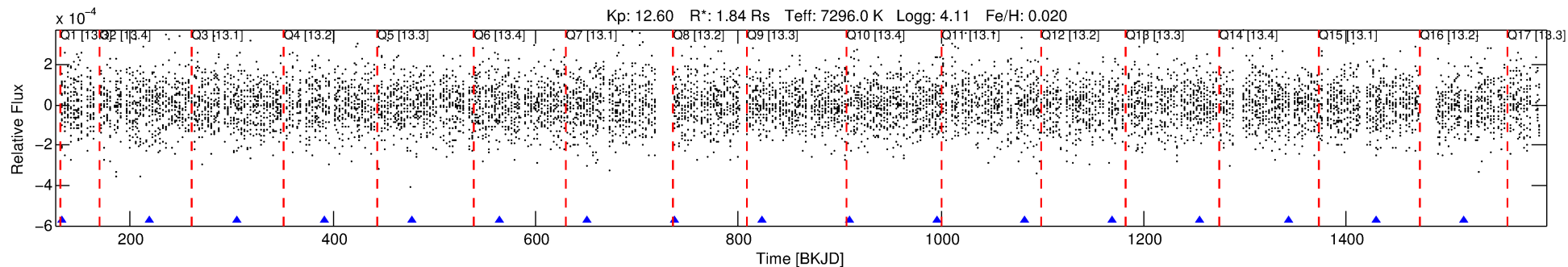
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-05

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 5 of 10 Period: 86.463 d



DV Fit Results:

Period = 86.46268 [0.00082] d
Epoch = 131.9576 [0.0092] BKJD
Rp/R* = 0.0148 [0.0097]
a/R* = 136.66 [561.21]
b = 0.89 [0.94]
Seff = 43.25 [16.91]
Teq = 654 [64] K
Rp = 2.98 [2.16] Re
a = 0.4468 [0.1104] AU
Ag = 1437.61 [1997.93] [0.72 σ]
Teffp = 6225 [2111] K [2.64 σ]

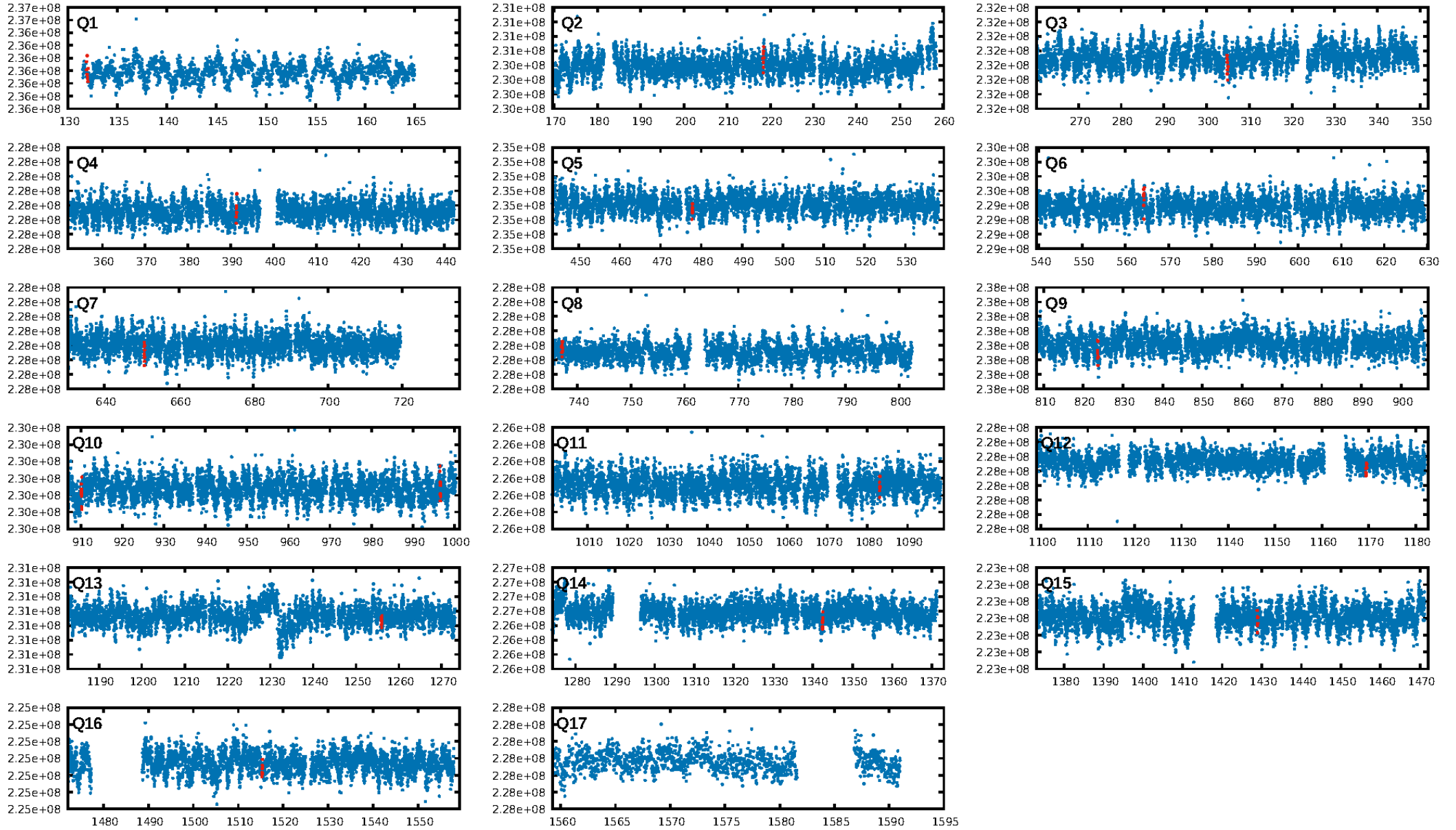
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [24.42 σ]
LongPeriod-sig: 100.0% [258.56 σ]
ModelChiSquare2-sig: 53.6%
ModelChiSquareGof-sig: 94.9%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [4/4]
GhostDiagnostic-chr: -0.5936
Centroid-sig: 42.4%
Centroid-so: 0.461 arcsec [0.57 σ]
OotOffset-rm: 1.436 arcsec [1.15 σ]
KicOffset-rm: 1.548 arcsec [1.26 σ]
OotOffset-st: 2/3/4/3 [12]
KicOffset-st: 2/3/4/3 [12]
DiffImageQuality-fgm: 0.08 [1/12]
DiffImageOverlap-fno: 0.47 [7/15]

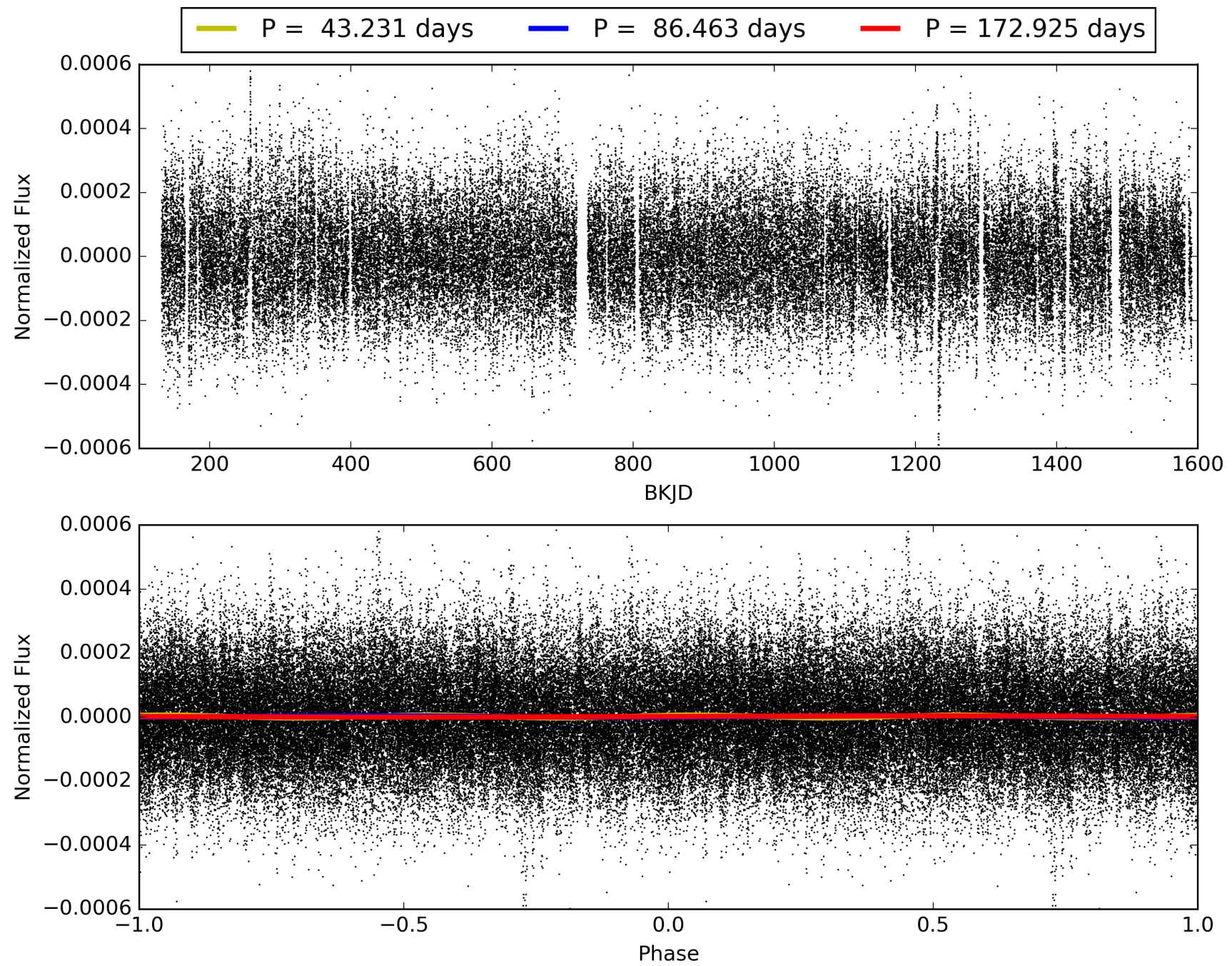
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:18:20 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008553462-05, PDC Light Curves

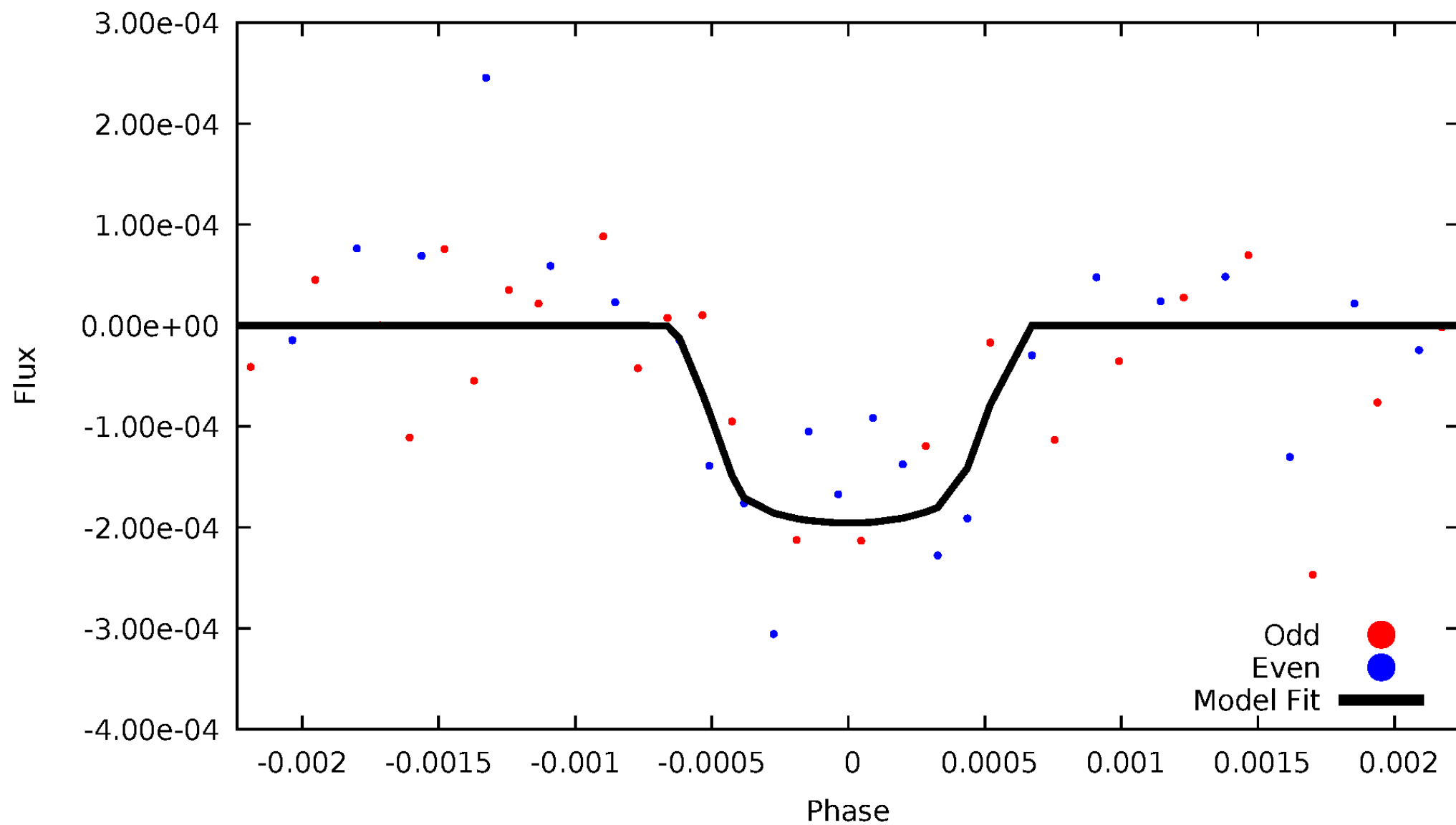


TCE 008553462-05



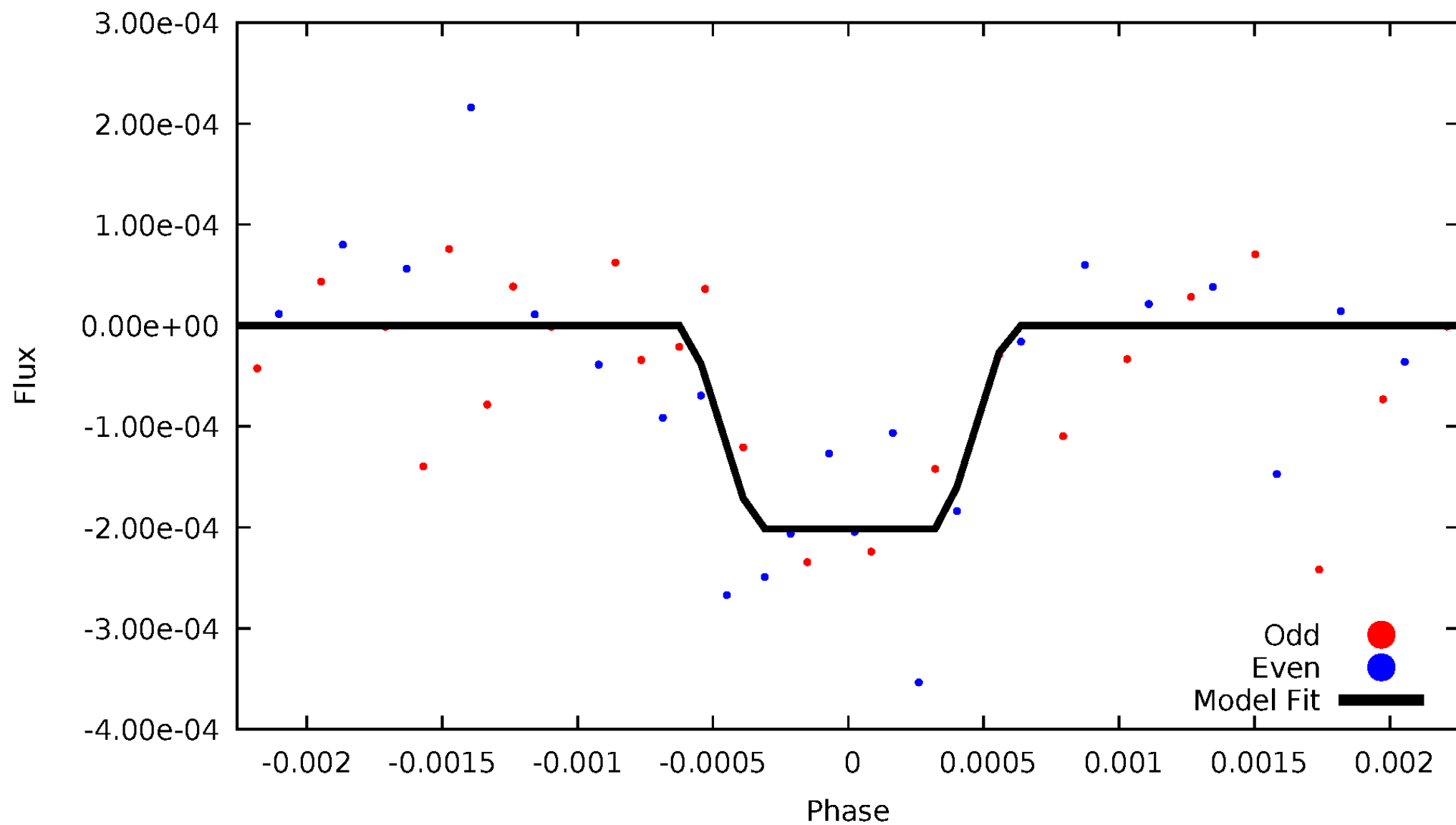
DV Odd/Even

TCE 008553462-05



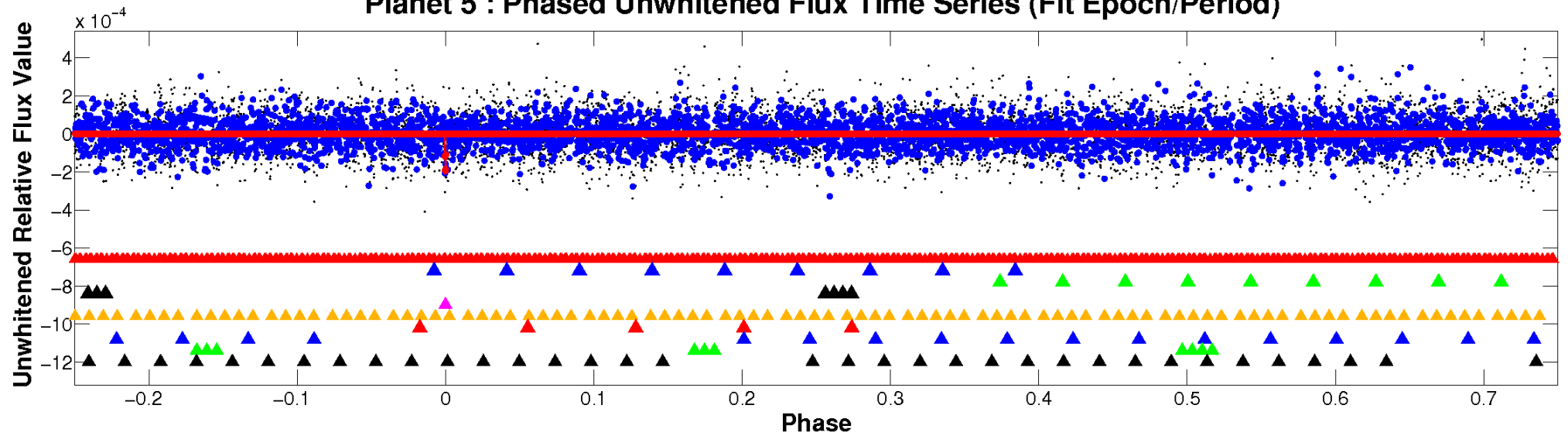
ALT Odd/Even

TCE 008553462-05

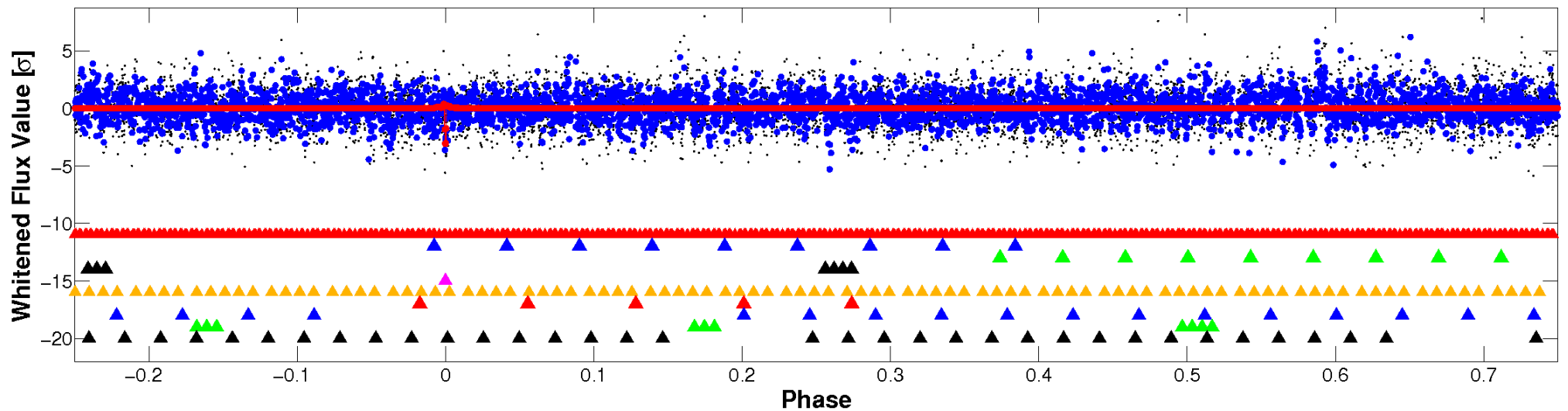


Non-Whitened Vs. Whitened Light Curve

Planet 5 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

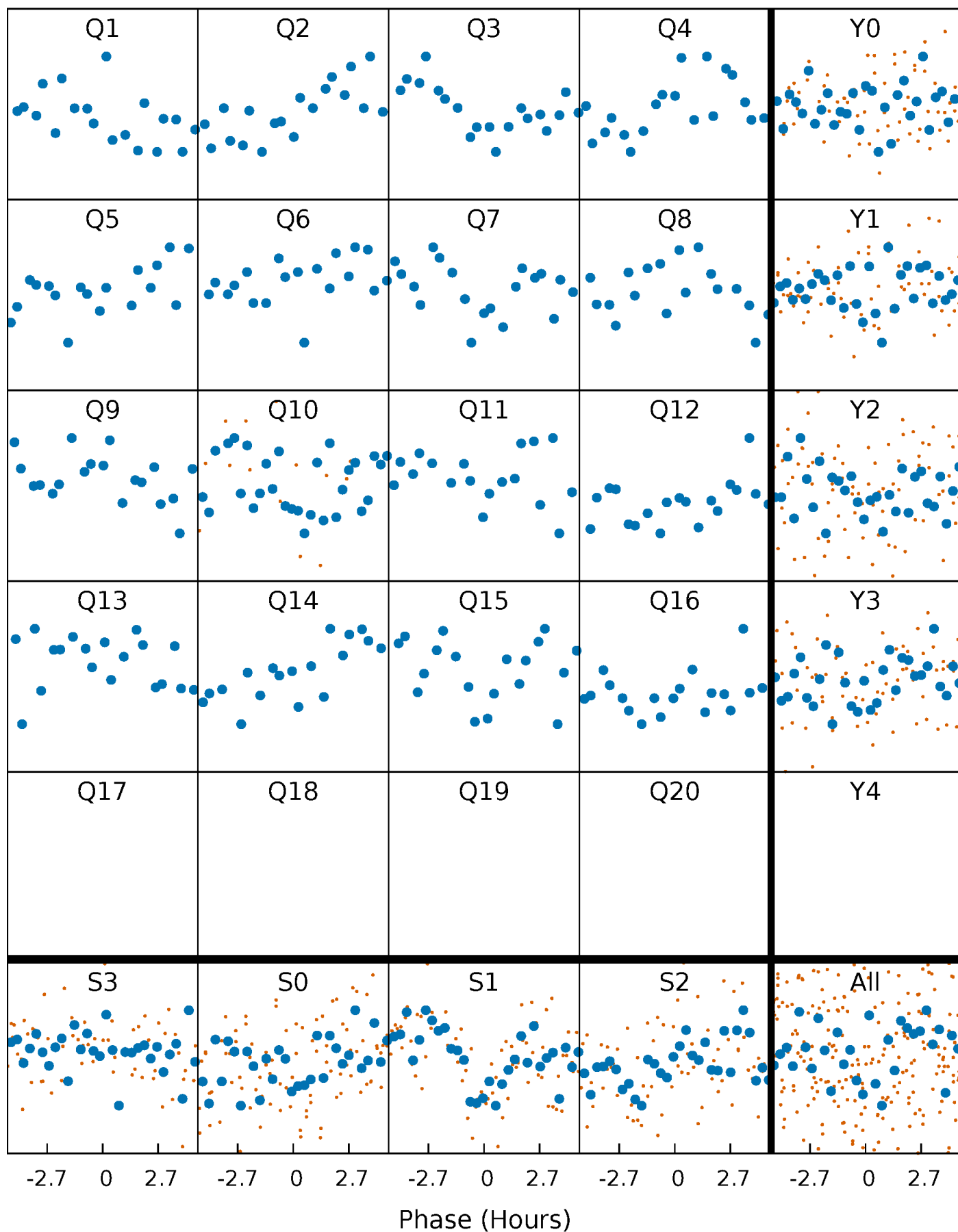


Planet 5 : Phased Whitened Flux Time Series (Fit Epoch/Period)



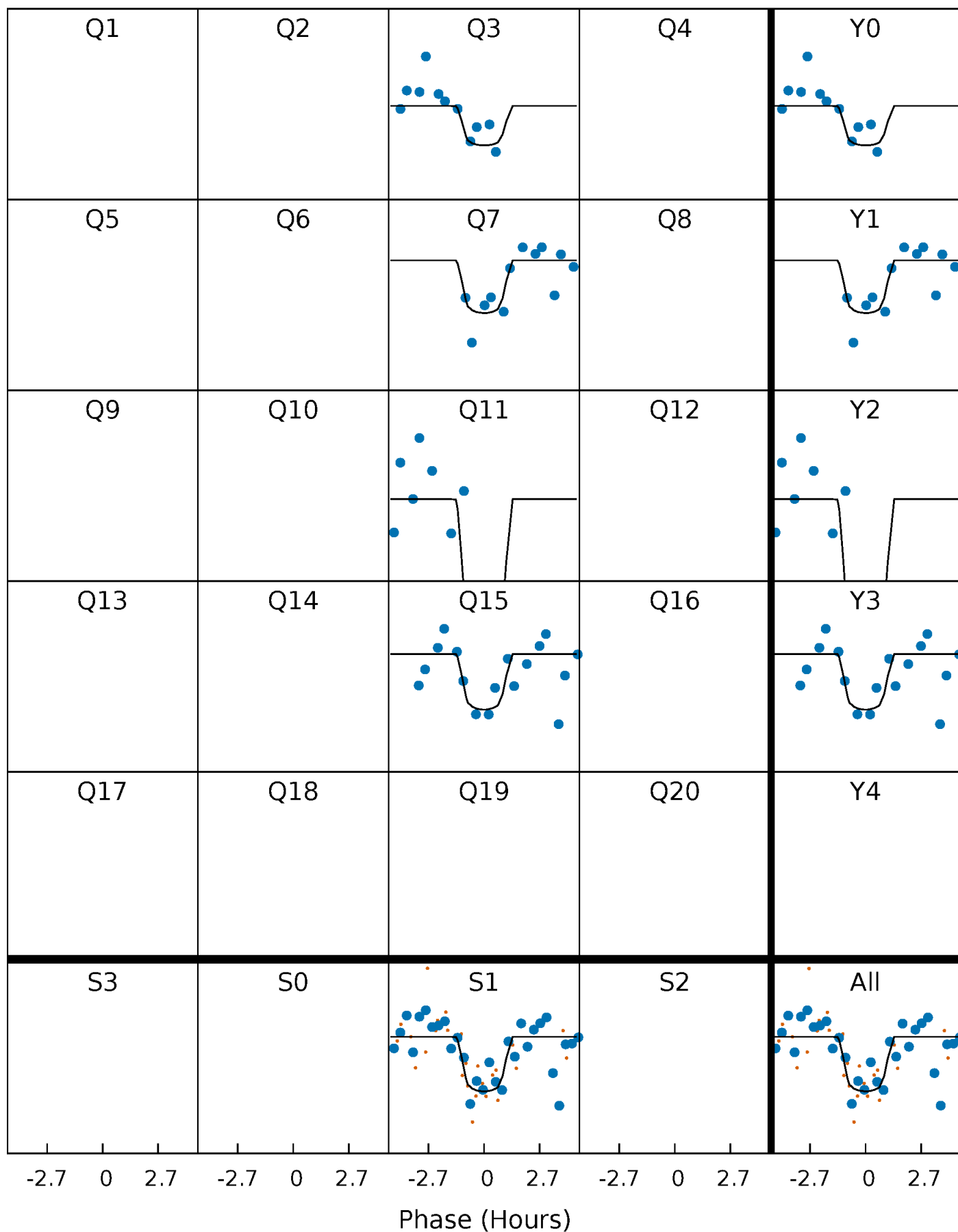
PDC Quarter-Phased Transit Curves

TCE 008553462-05 $P = 86.462681$ Days $T_0 = 131.957604$ (BKJD)



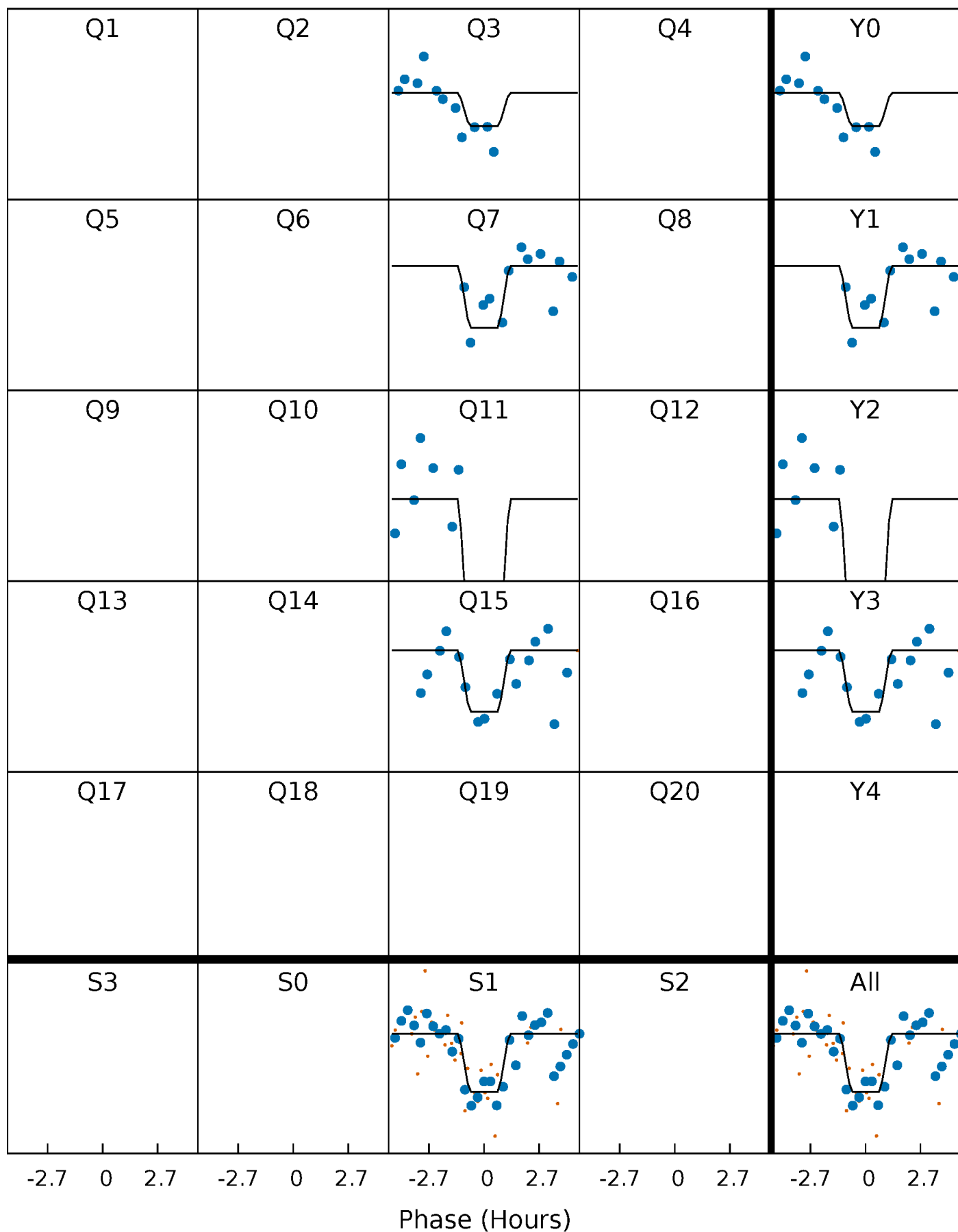
DV Quarter-Phased Transit Curves

TCE 008553462-05 $P = 86.462681$ Days $T_0 = 131.957604$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

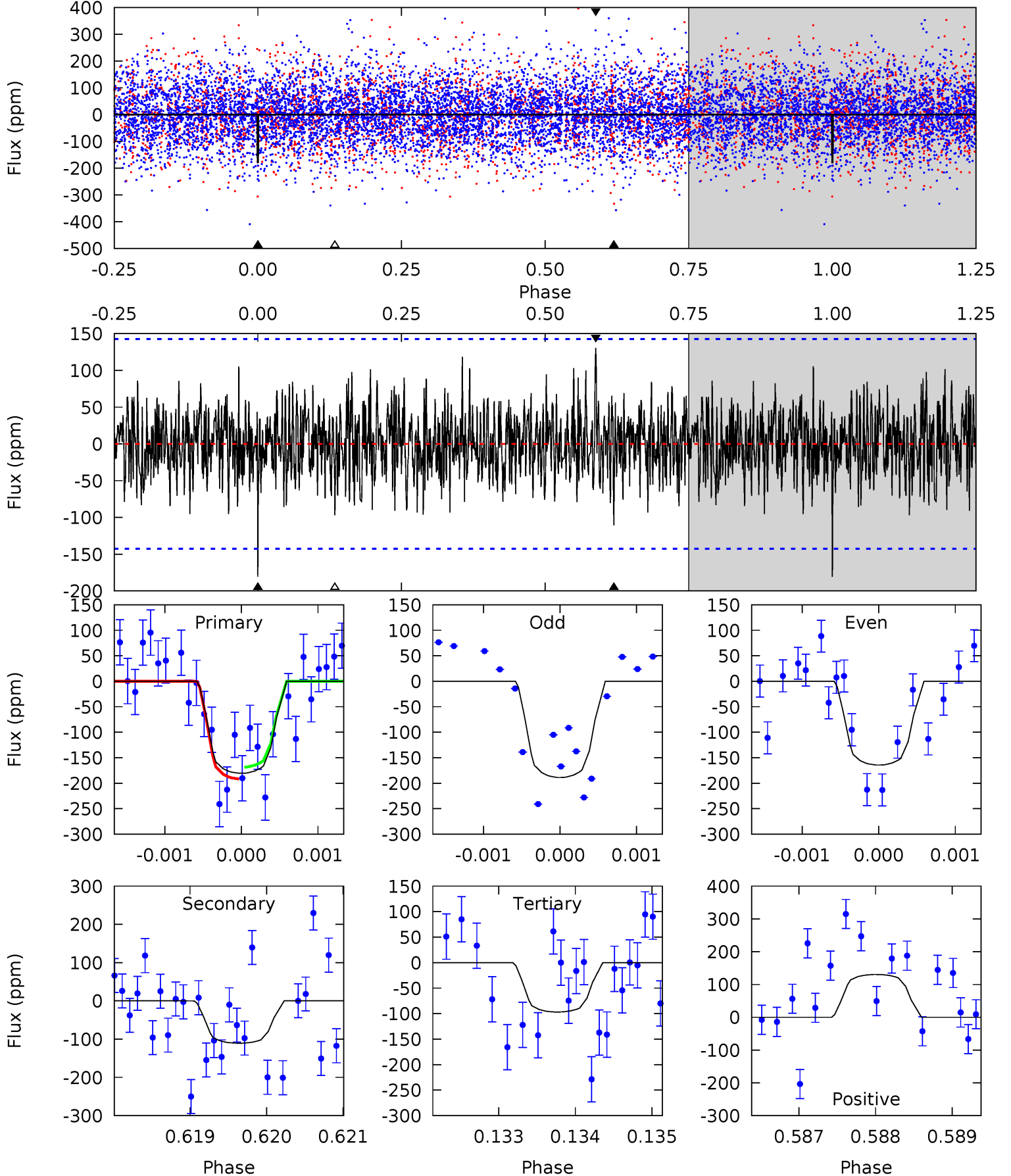
TCE 008553462-05 P= 86.461983 Days $T_0=131.964813$ (BKJD)



DV Model-Shift Uniqueness Test

008553462-05, P = 86.462681 Days, E = 131.957604 Days

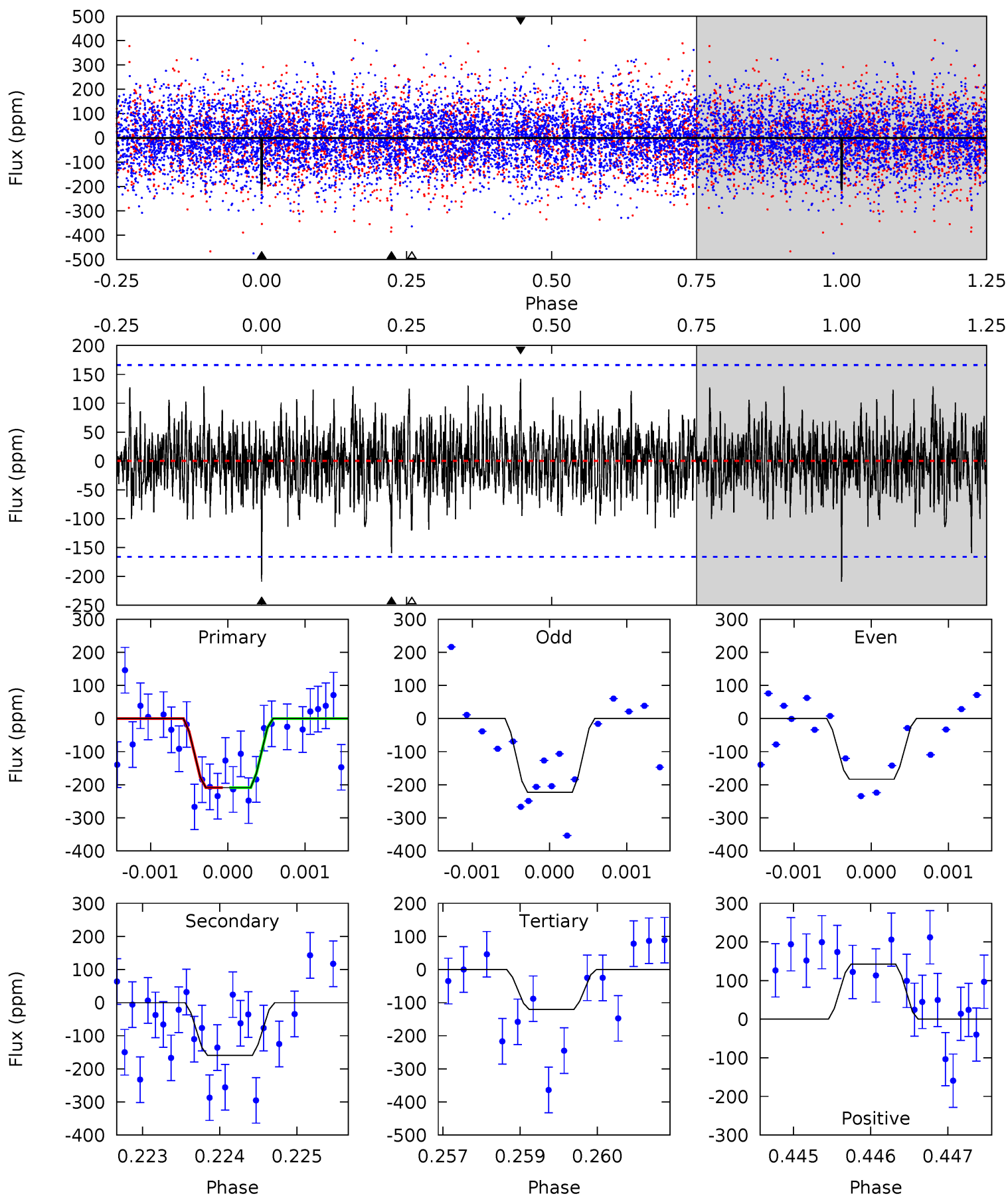
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.87	4.21	3.69	4.97	5.43	3.25	1.32	3.18	1.90	0.52	-0.76	0.47	1.07	0.42	0.44



Alt Model-Shift Uniqueness Test

008553462-05, P = 86.461983 Days, E = 131.964813 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.84	5.22	3.94	4.65	5.44	3.27	1.32	2.90	2.19	1.28	0.57	0.65	1.13	0.40	0.00



Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-05 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-111±26	$3.16^{+1.95}_{-1.76}$	918^{+67}_{-65}	5841^{+3715}_{-1105}	1160^{+5379}_{-703}
Alt.	-160±31	$3.01^{+2.08}_{-1.74}$	921^{+68}_{-65}	6671^{+5074}_{-1513}	1844^{+9185}_{-1215}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
 A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

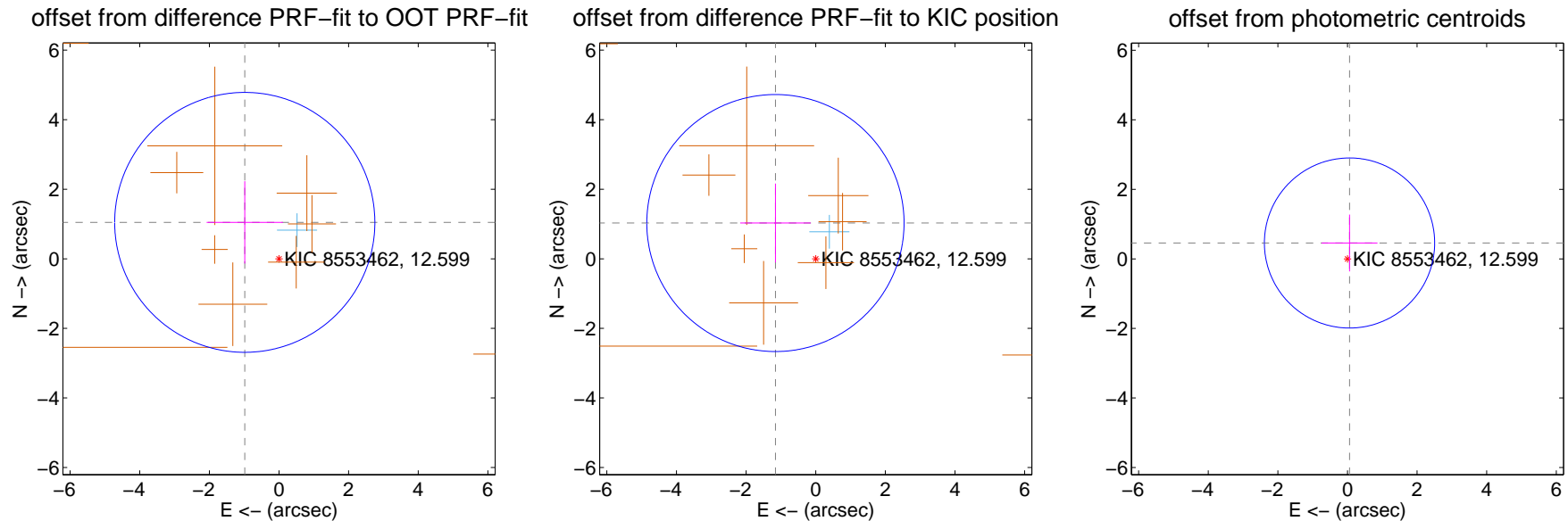
DV Centroid Data

Supplemental centroid analysis for 008553462-05. Kepler magnitude: 12.60. Transit SNR 9.94

There are 1 quarters with good PRF difference image offsets

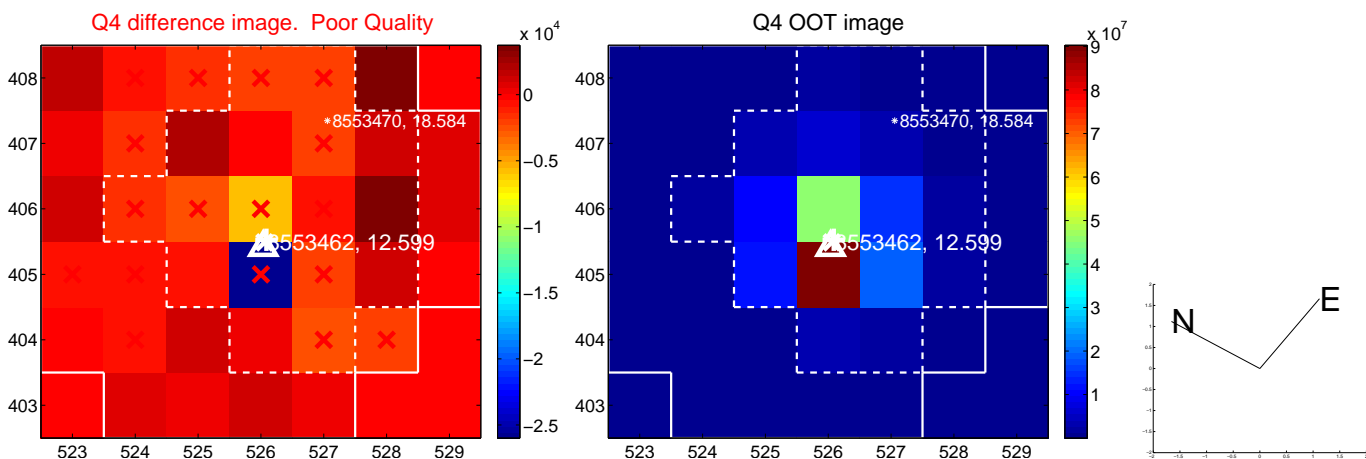
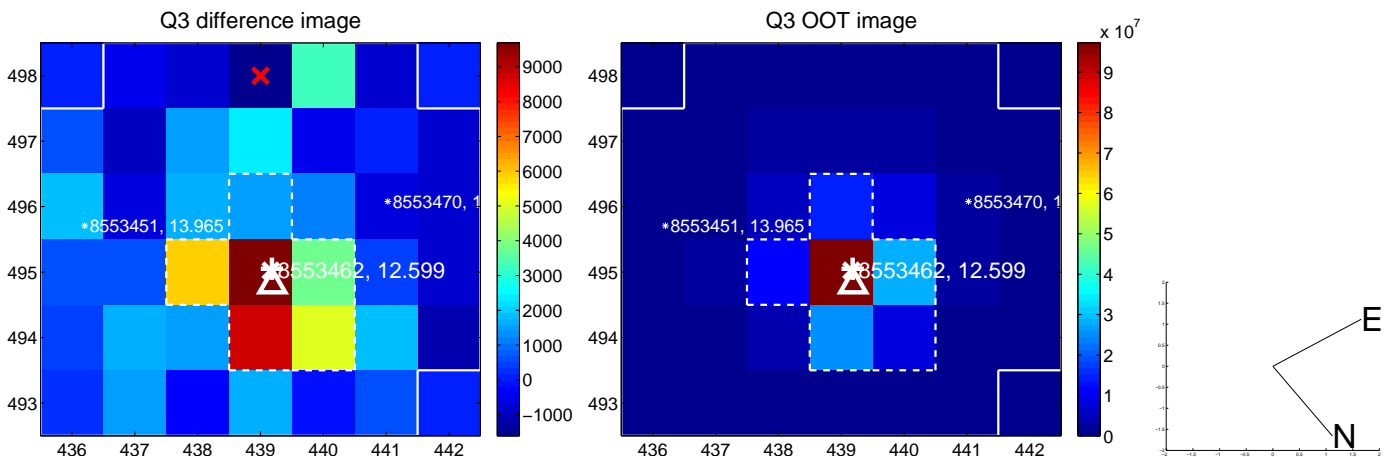
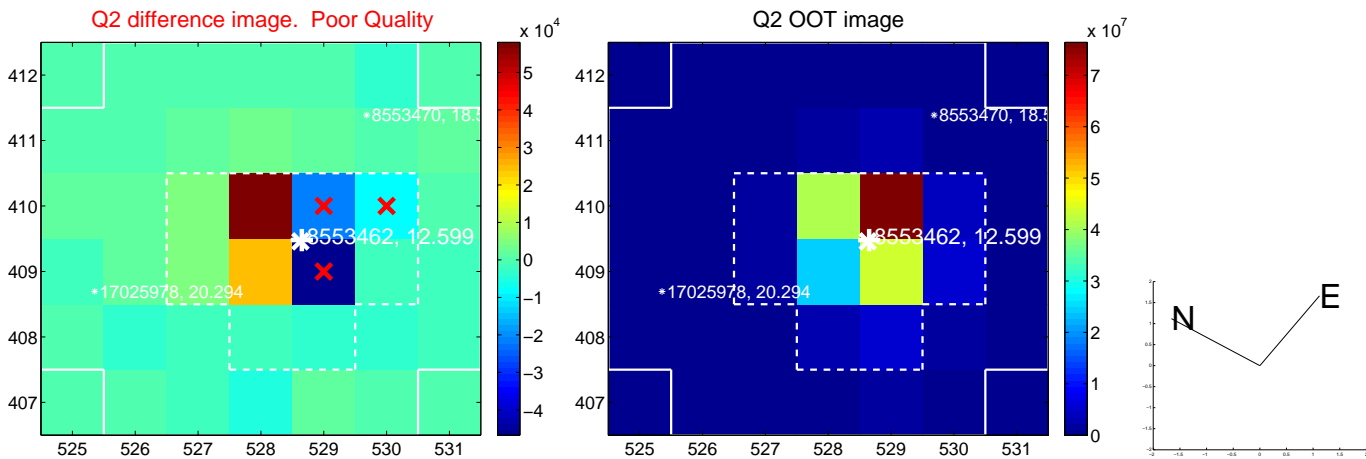
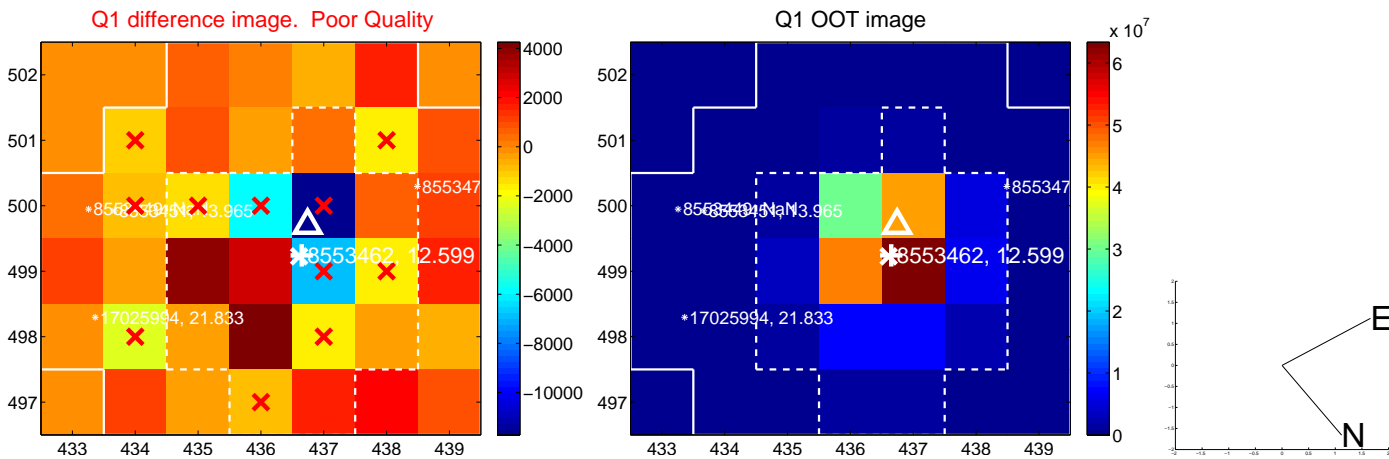
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.436 ± 1.245	1.15	0.983 ± 1.095	1.047 ± 1.184
PRF-fit source offset from KIC position	1.548 ± 1.231	1.26	1.157 ± 1.013	1.028 ± 1.137
photometric centroid source offset	0.46 ± 0.82	0.57	-0.06 ± 0.80	0.46 ± 0.82

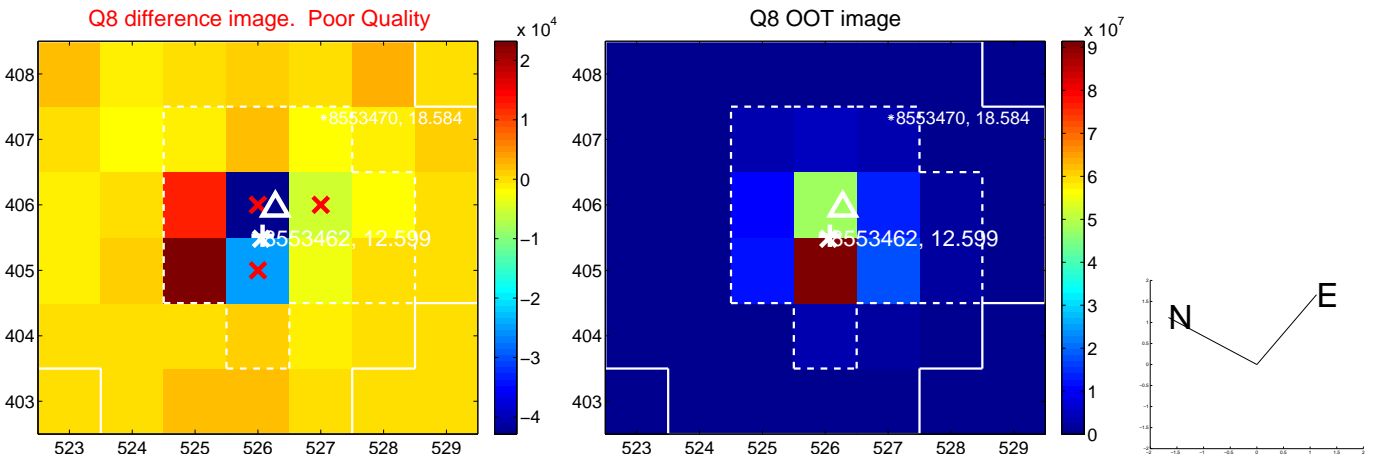
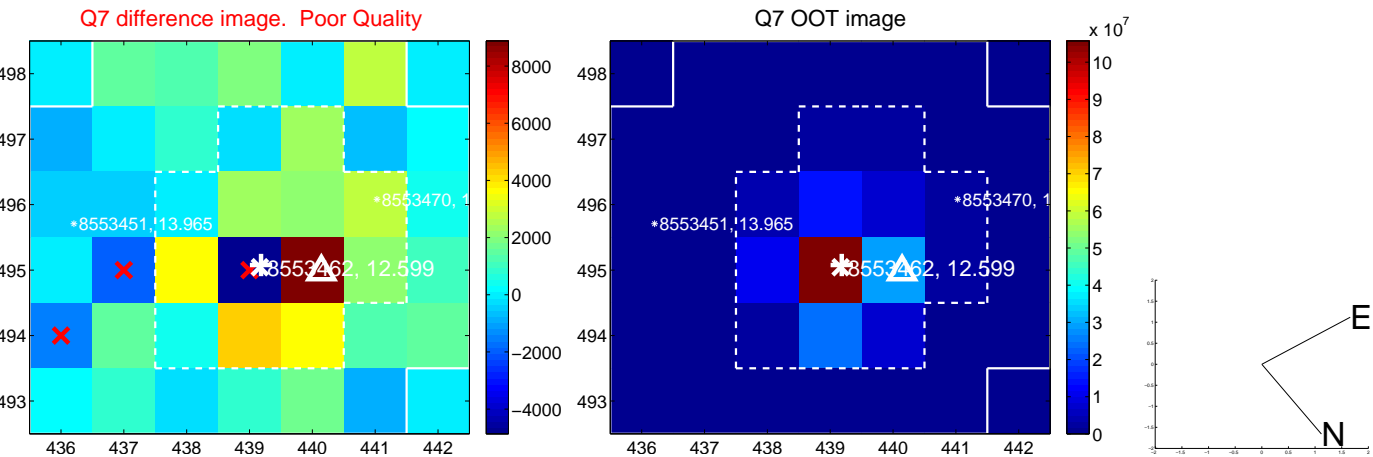
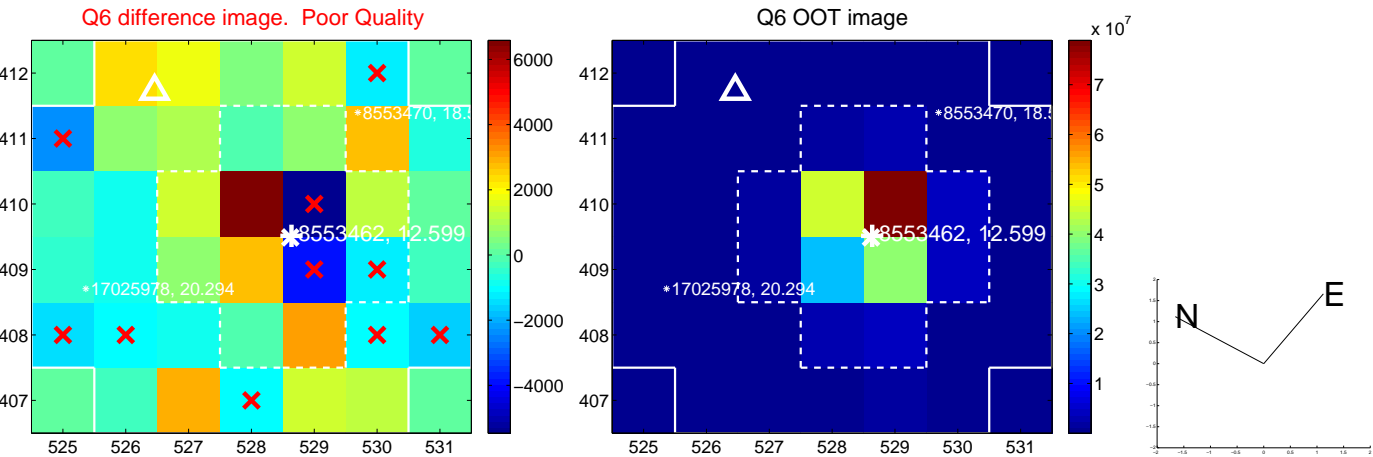
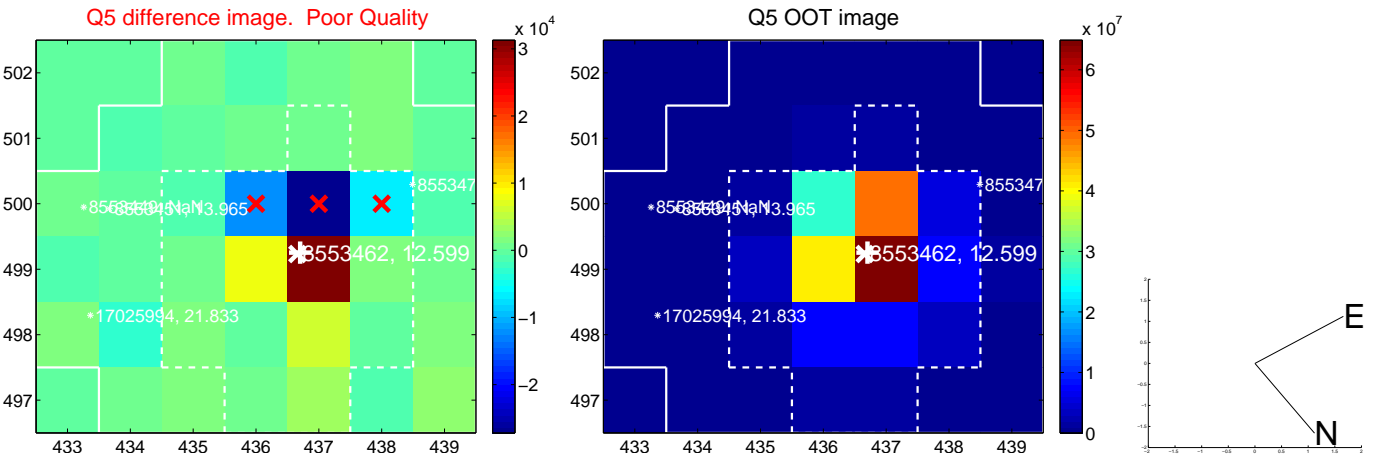


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

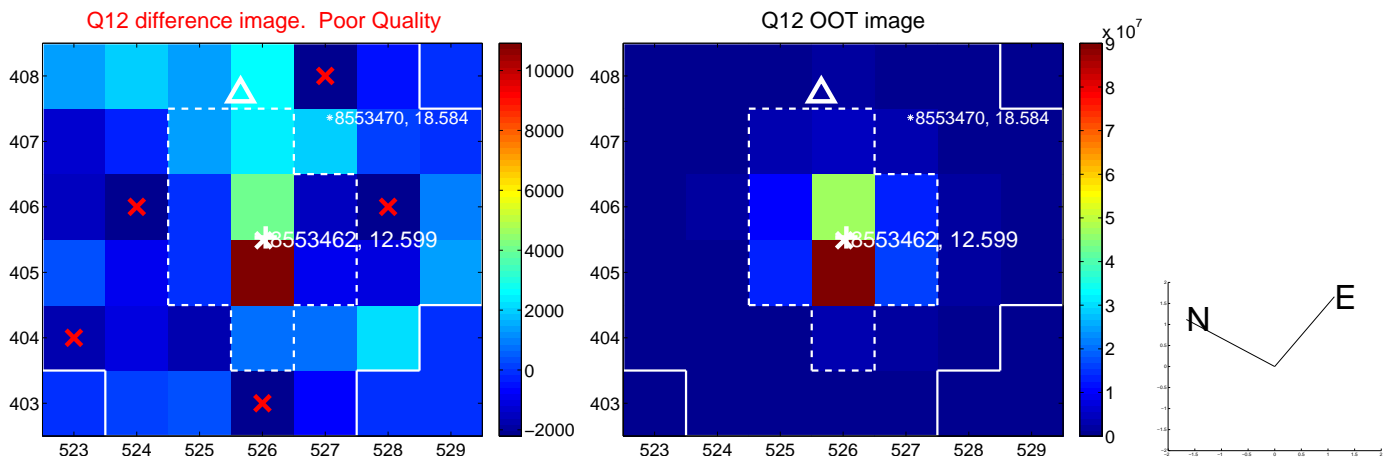
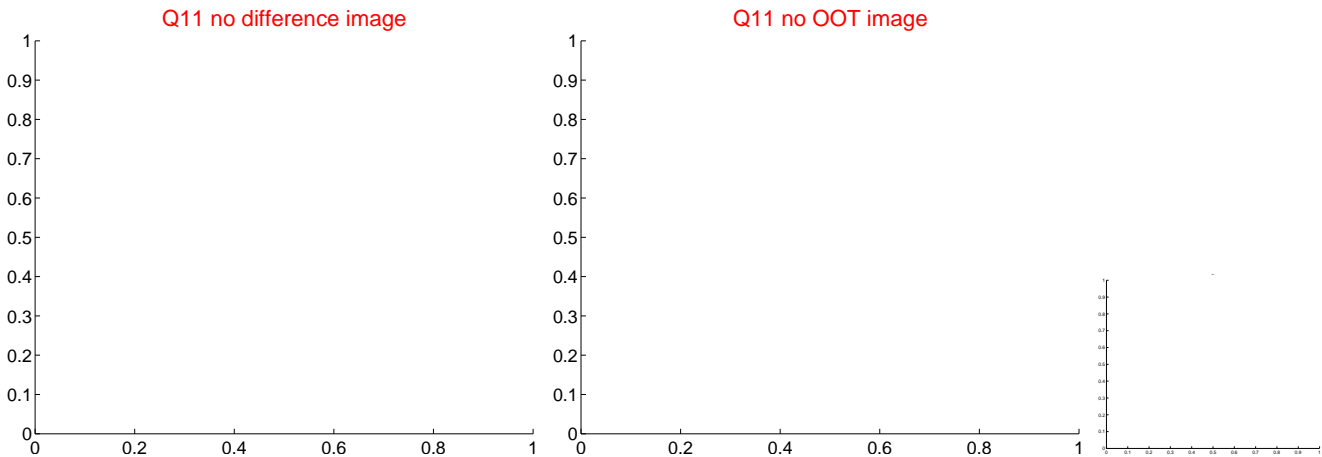
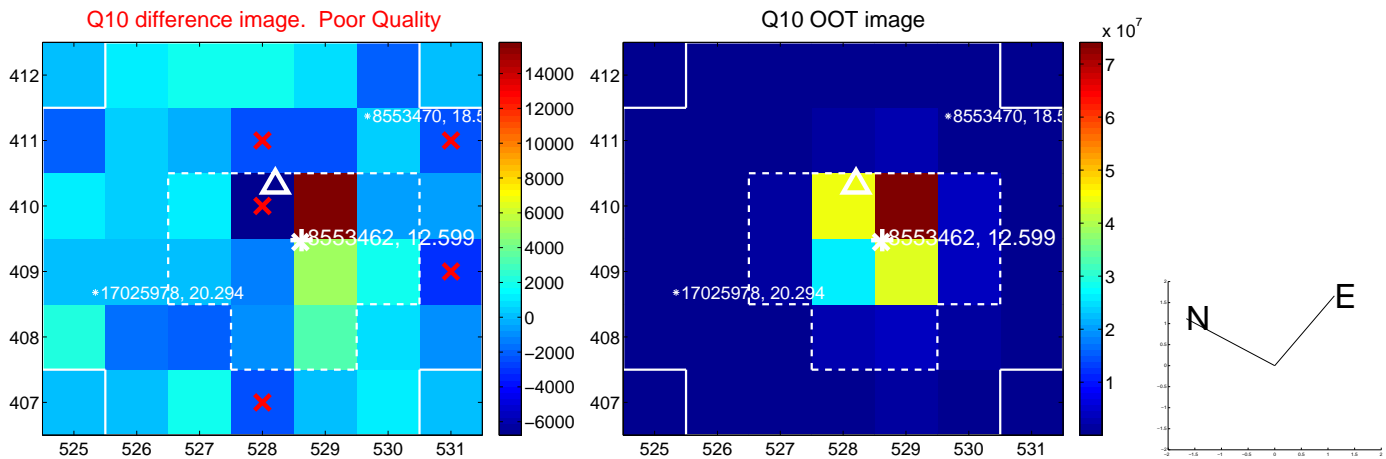
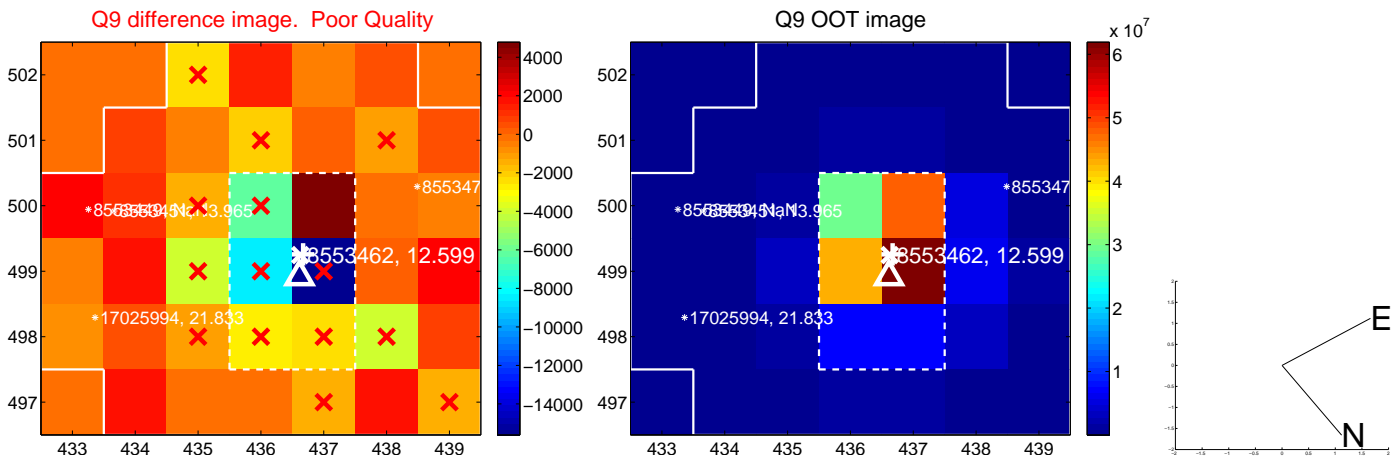
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



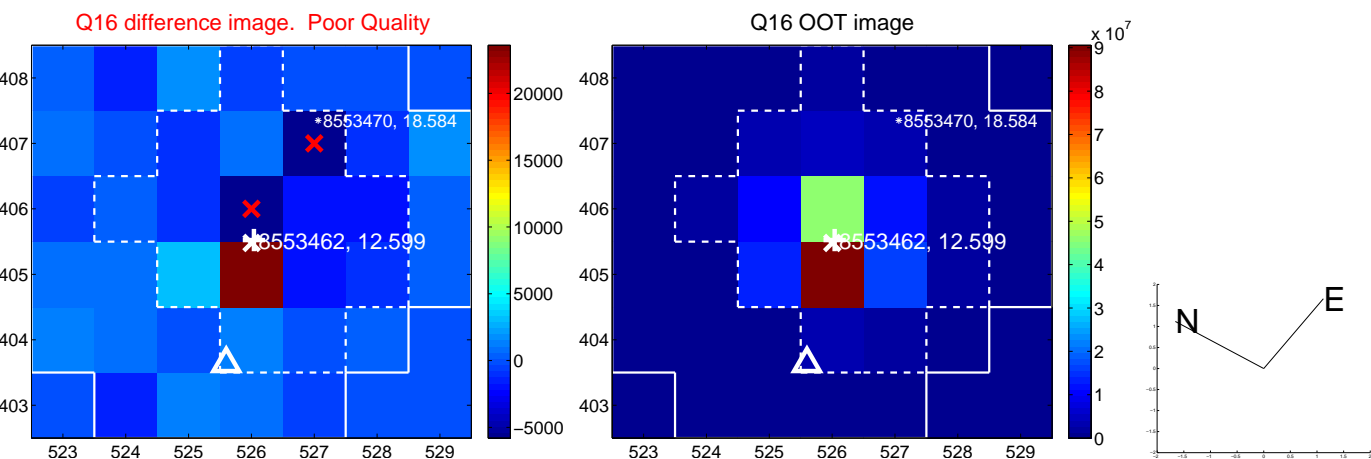
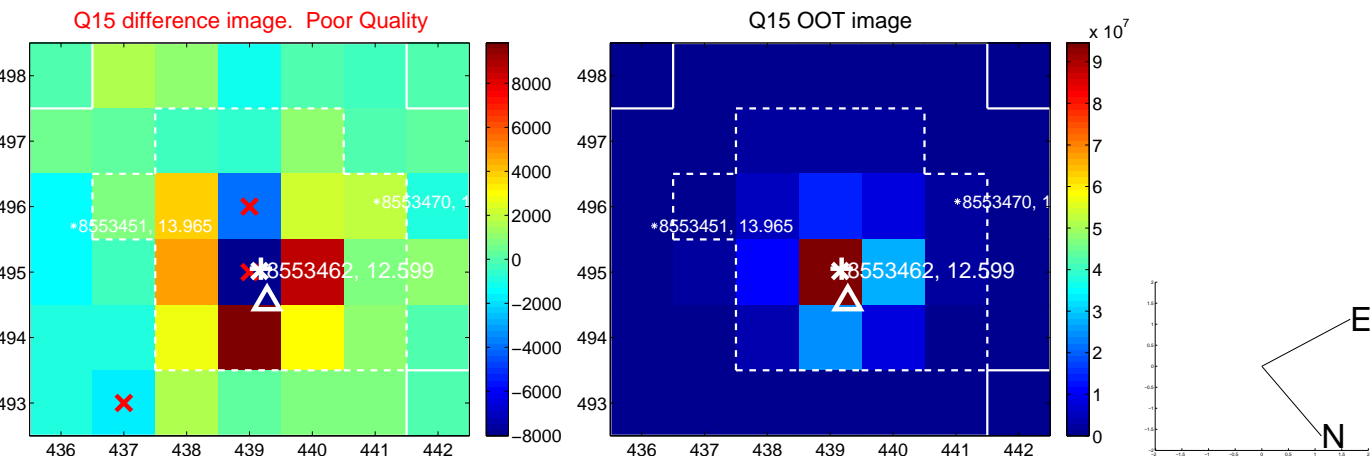
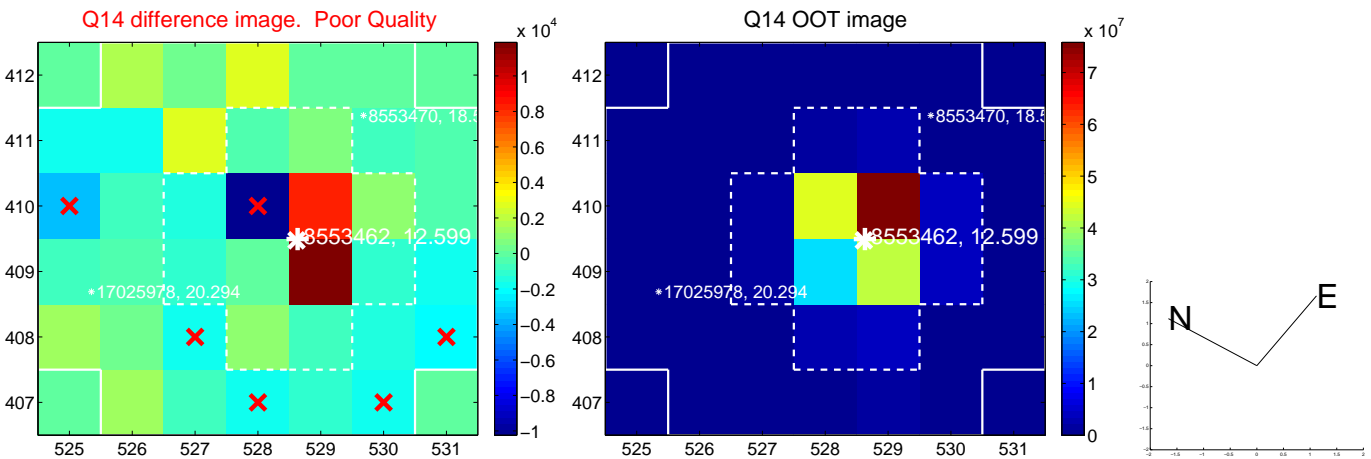
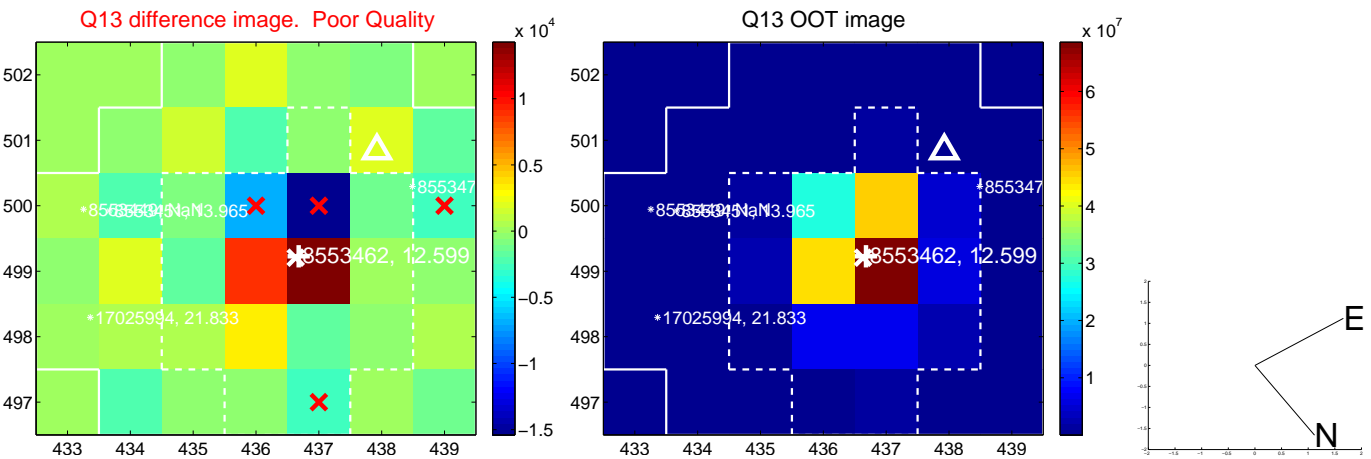
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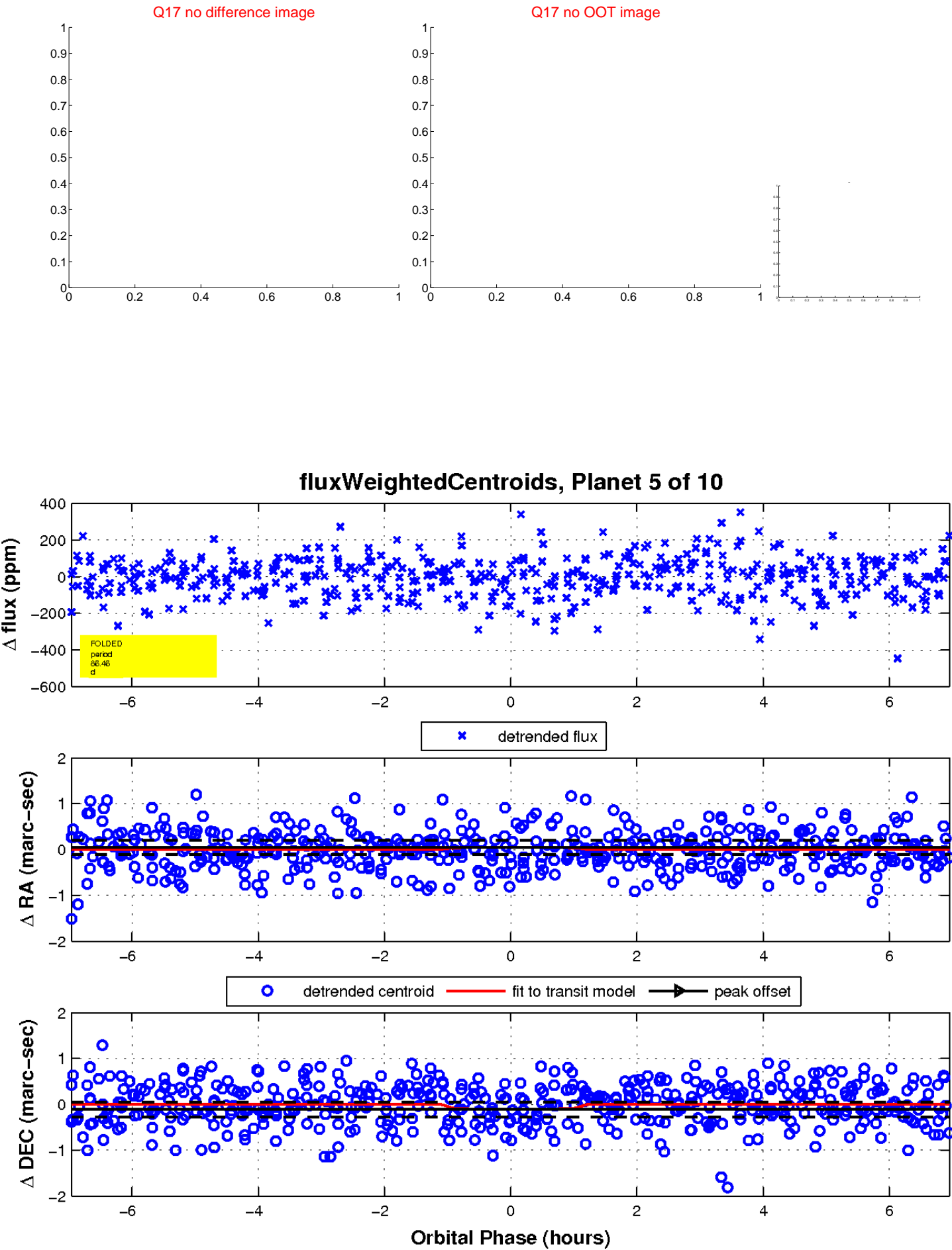
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white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

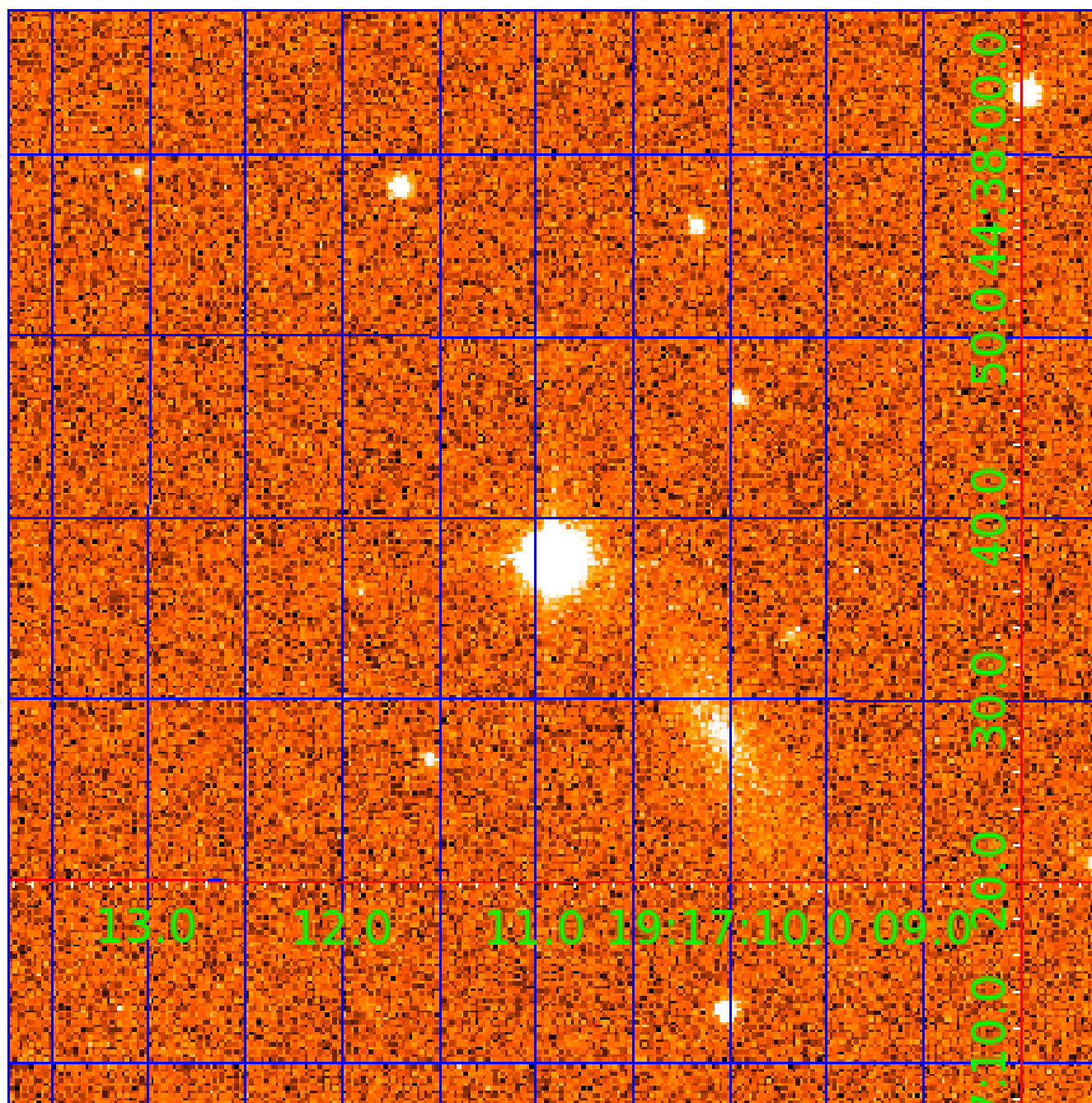


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008553462-01	OBS	No	2.768998	134.441172	0.0	18.950	9.1	0.0	1.84	7296	0.04	4252.50
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008553462-04	OBS	No	215.902359	155.628727	135.2	9.415	10.6	10.0	1.84	7296	2.42	12.77
008553462-05	OBS	No	86.462681	131.957604	195.8	2.322	9.6	9.9	1.84	7296	2.98	43.25
008553462-06	OBS	No	15.001439	132.186756	73.2	5.330	8.7	10.2	1.84	7296	1.80	446.92
008553462-07	OBS	No	265.683201	389.849295	210.2	64.946	9.4	9.8	1.84	7296	2.93	9.68
008553462-08	OBS	No	82.624800	210.760893	185.7	2.972	9.0	8.8	1.84	7296	2.94	45.95
008553462-09	OBS	No	143.910724	263.113872	178.3	4.800	8.7	8.3	1.84	7296	2.86	21.93
008553462-10	OBS	No	42.186045	144.620372	281.0	1.500	9.1	-1.0	1.84	7296	3.14	112.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553462-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008553462-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

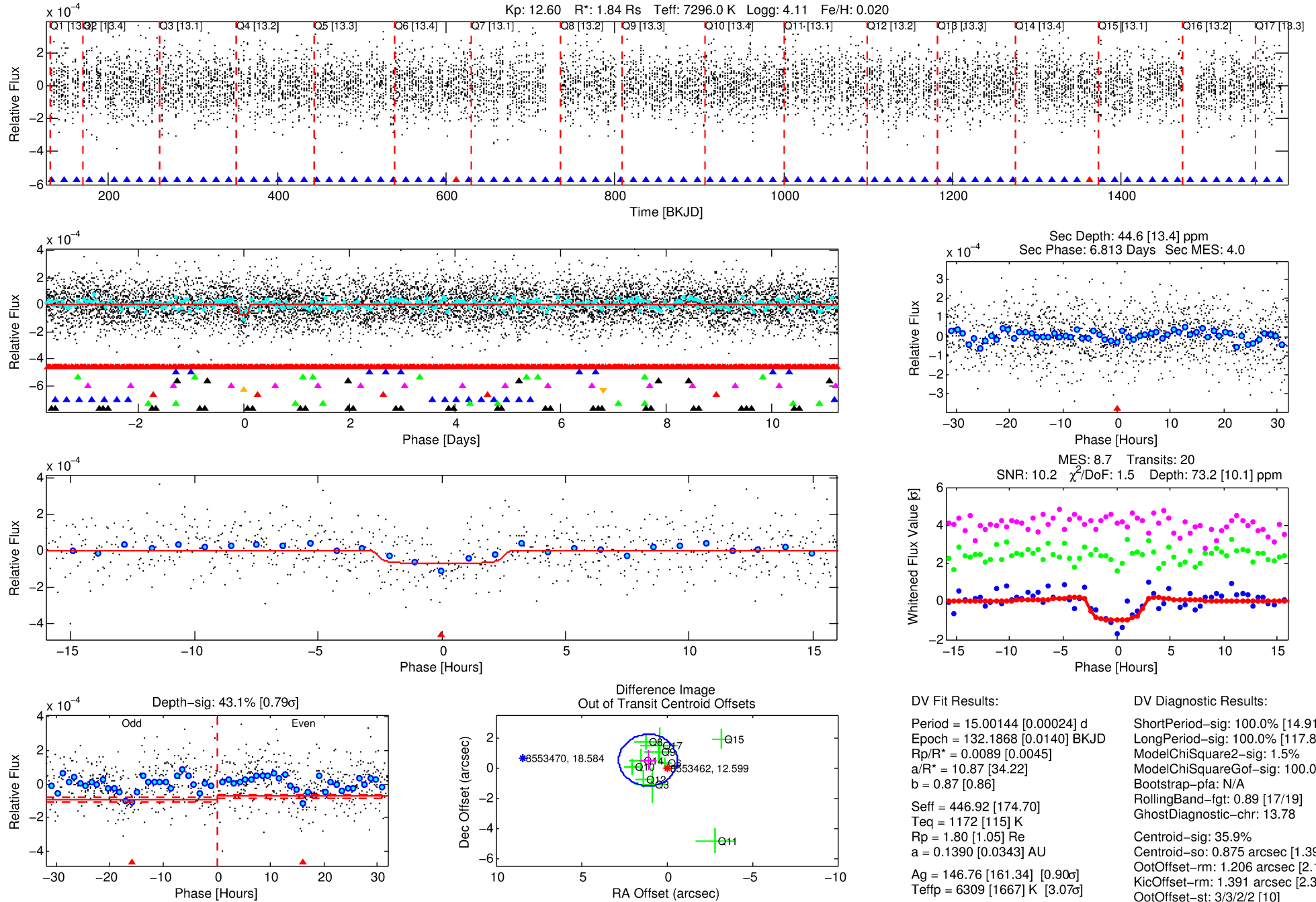
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-06

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 6 of 10 Period: 15.001 d



DV Fit Results:

Period = 15.00144 [0.00024] d
Epoch = 132.1868 [0.0140] BKJD
Rp/R* = 0.0089 [0.0045]
a/R* = 10.87 [34.22]
b = 0.87 [0.86]
Seff = 446.92 [174.70]
Teq = 1172 [115] K
Rp = 1.80 [1.05] Re
a = 0.1390 [0.0343] AU
Ag = 146.76 [161.34] [0.90 σ]
Teffp = 6309 [1667] K [3.07 σ]

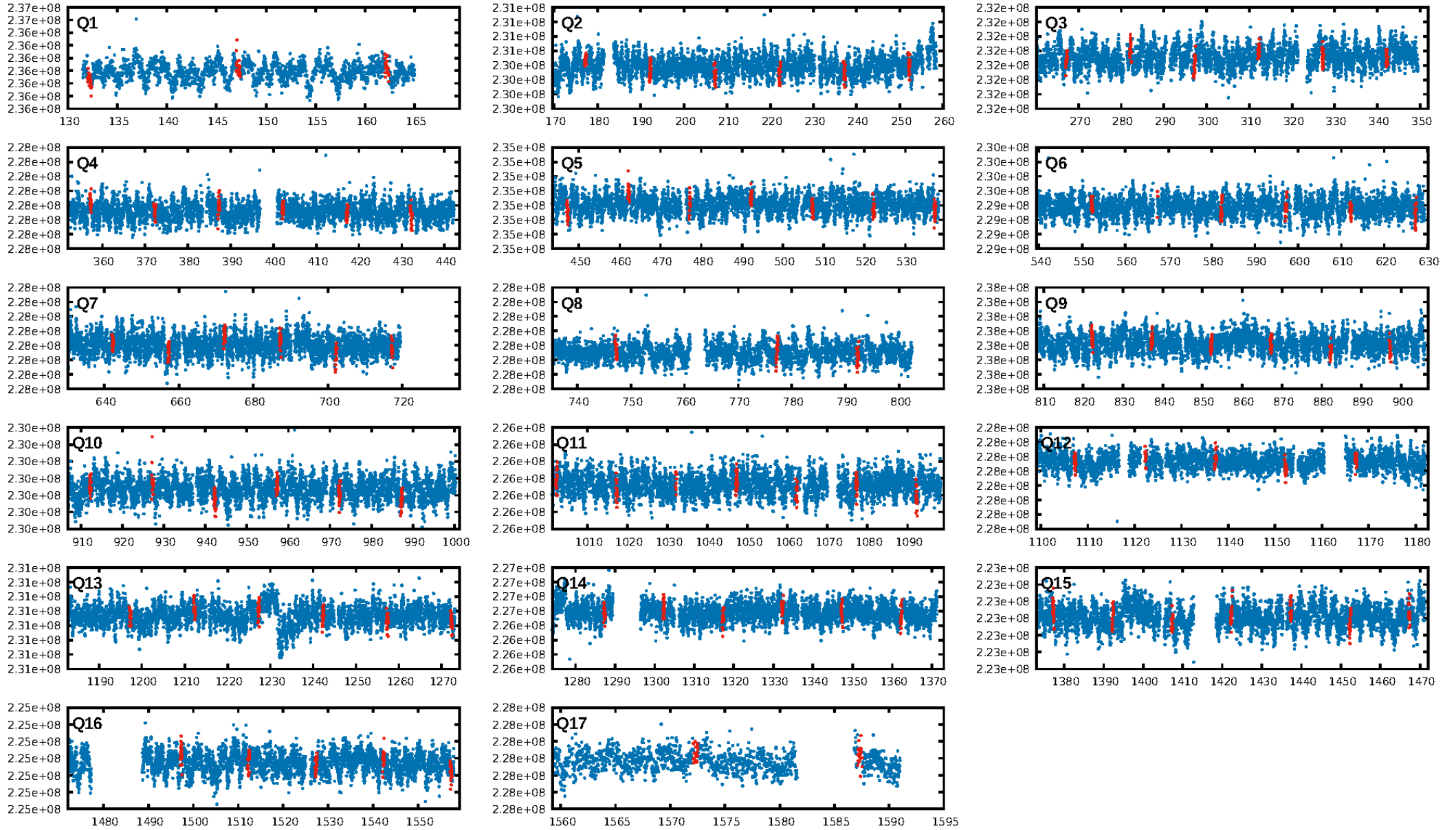
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [14.91 σ]
LongPeriod-sig: 100.0% [117.82 σ]
ModelChiSquare2-sig: 1.5%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 0.89 [17/19]
GhostDiagnostic-chr: 13.78
Centroid-sig: 35.9%
Centroid-so: 0.875 arcsec [1.39 σ]
OotOffset-rm: 1.206 arcsec [2.11 σ]
OotOffset-st: 3/3/2/2 [10]
KicOffset-rm: 1.391 arcsec [2.39 σ]
KicOffset-st: 3/3/2/2 [10]
DiffImageQuality-fgm: 0.60 [6/10]
DiffImageOverlap-fno: 0.94 [16/17]

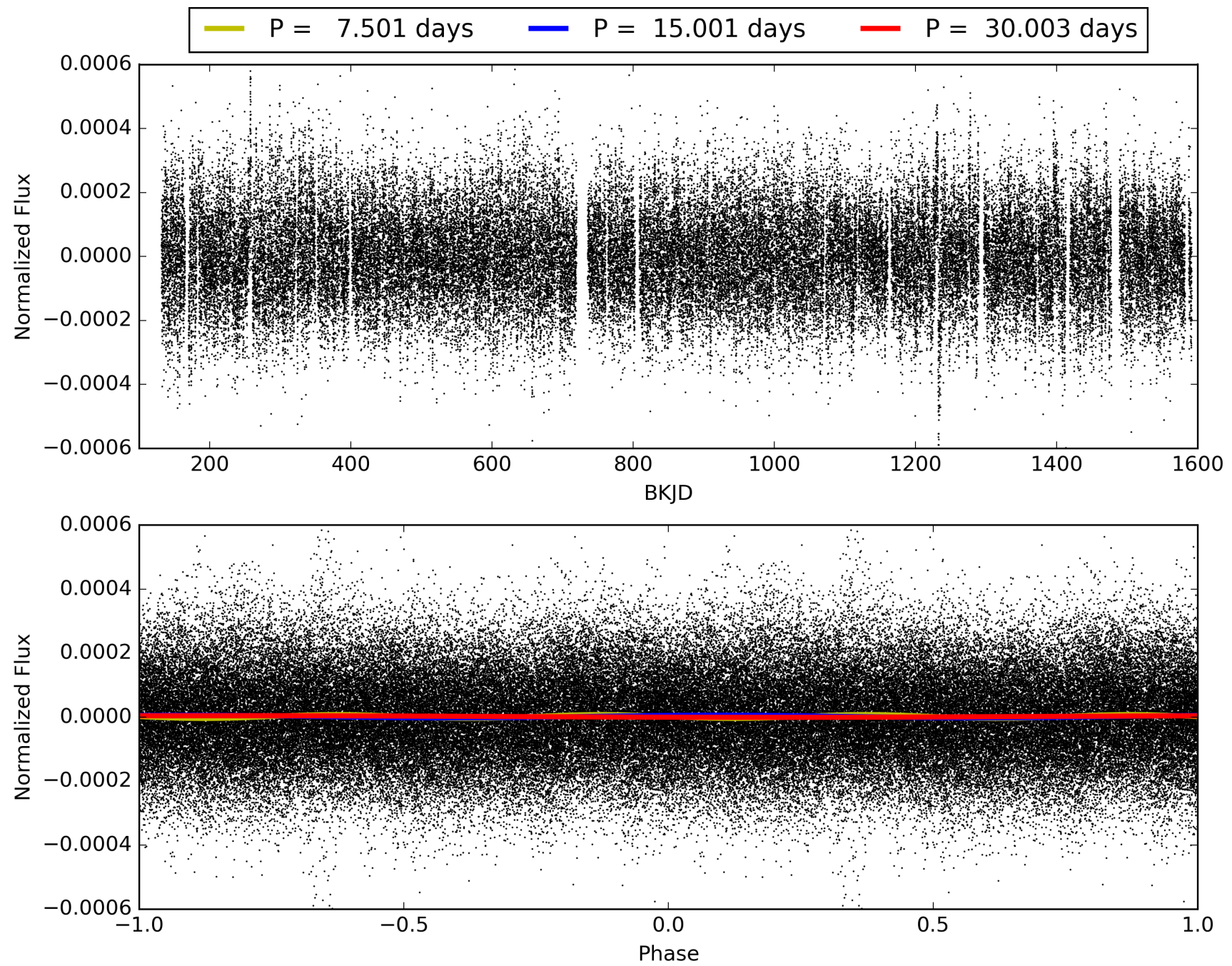
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:18:23 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008553462-06, PDC Light Curves

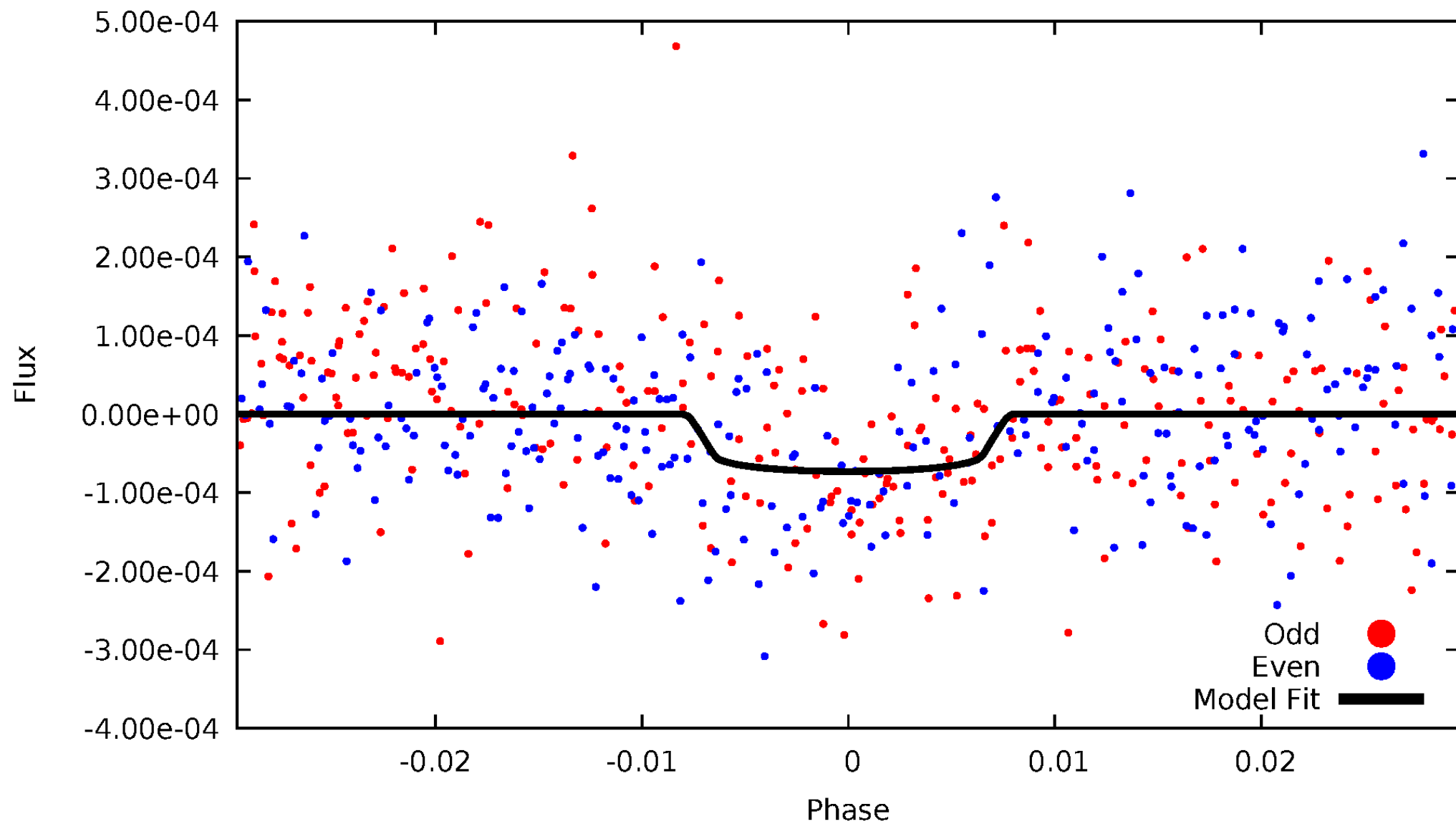


TCE 008553462-06



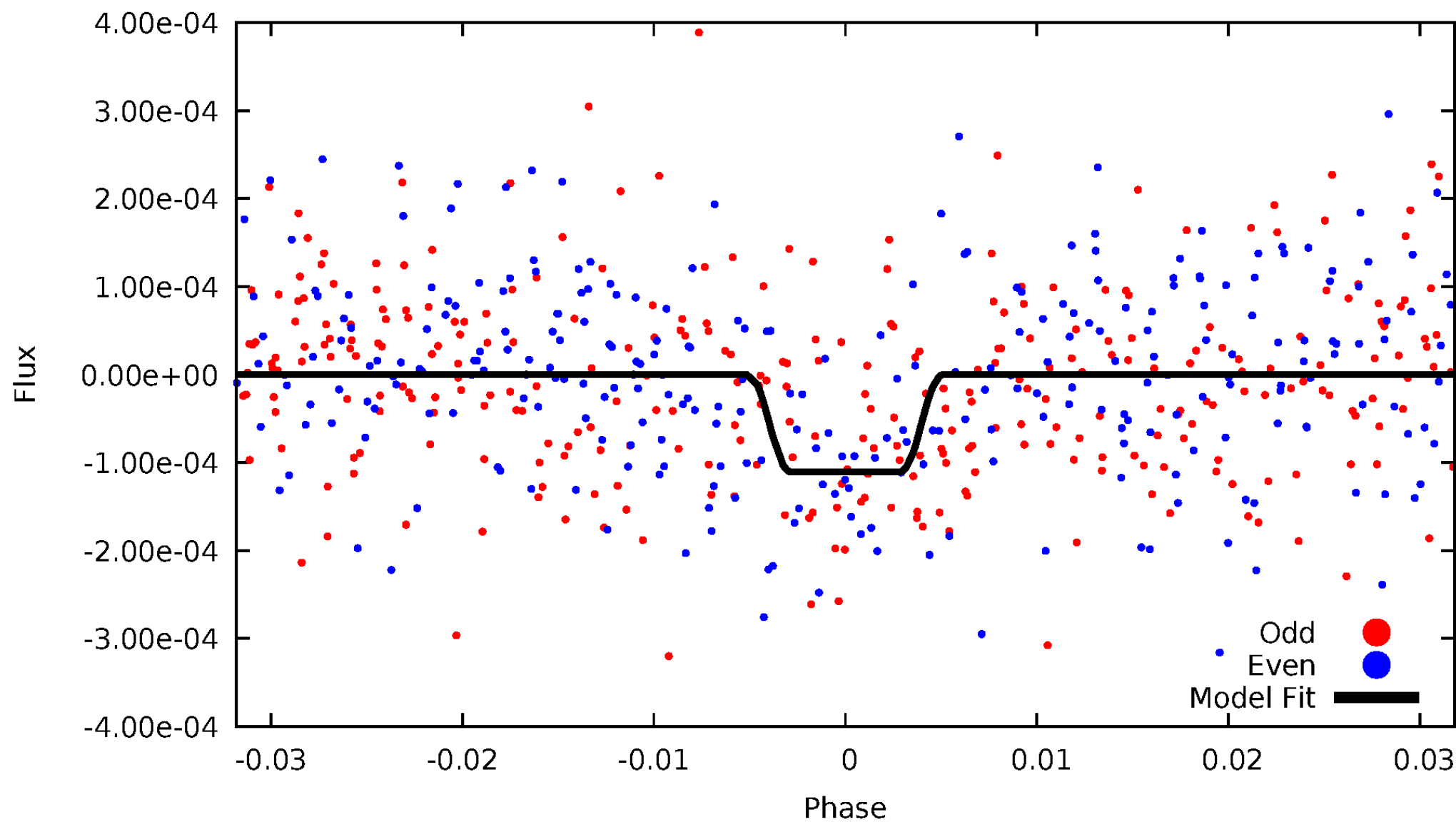
DV Odd/Even

TCE 008553462-06



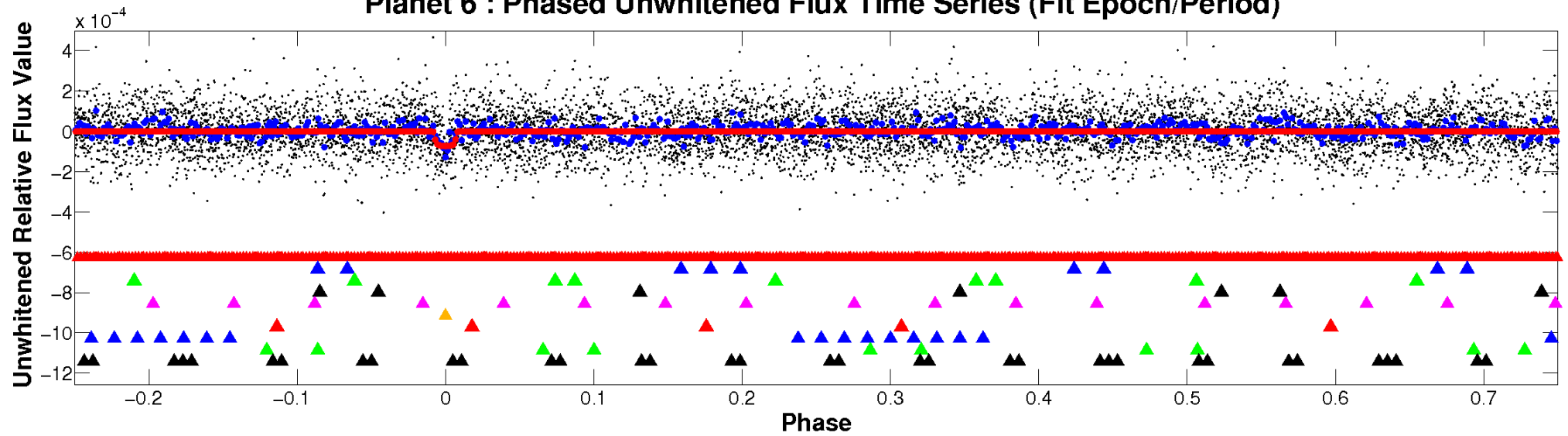
ALT Odd/Even

TCE 008553462-06

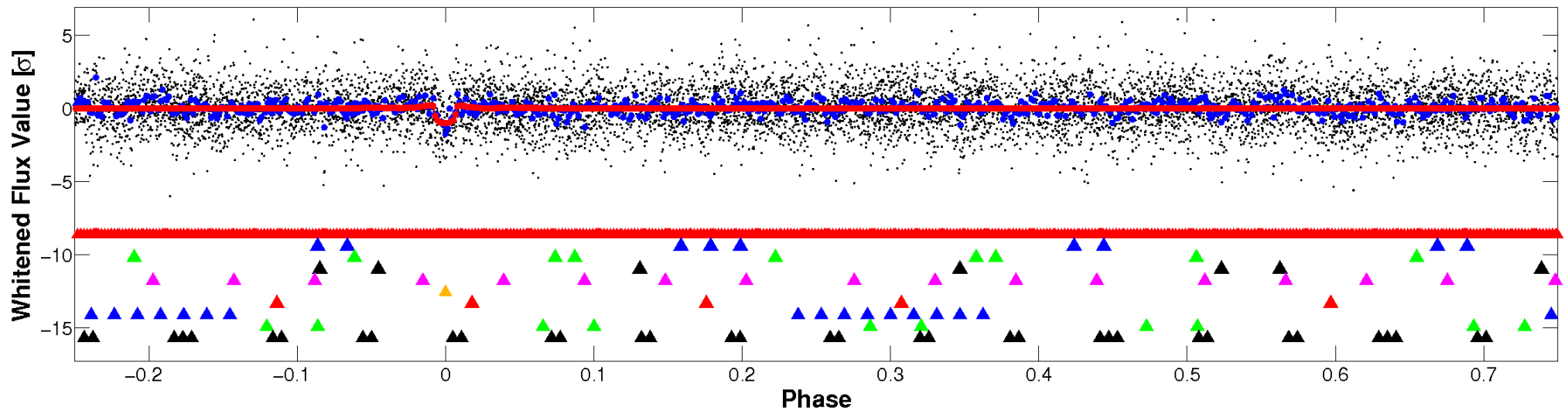


Non-Whitened Vs. Whitened Light Curve

Planet 6 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

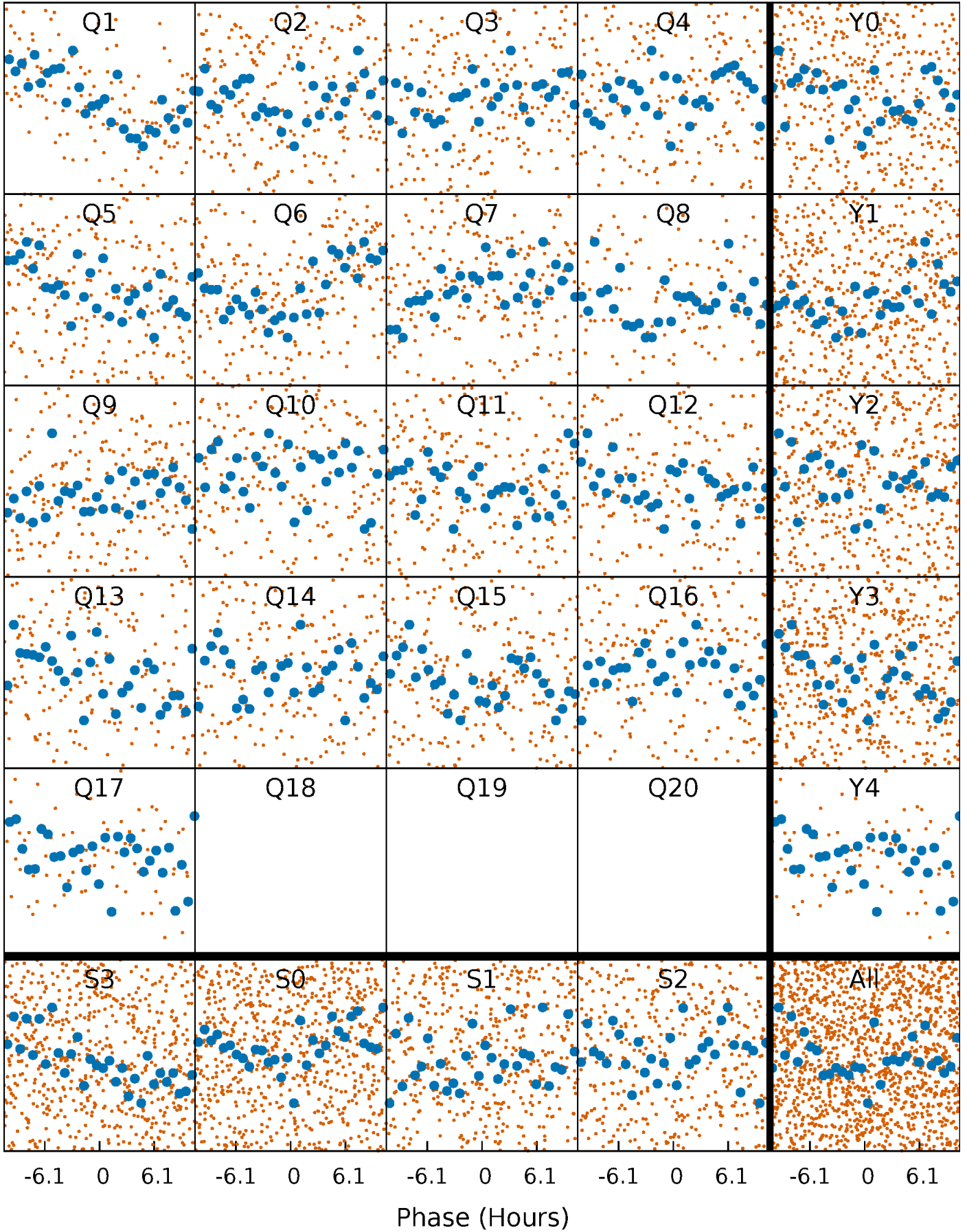


Planet 6 : Phased Whitened Flux Time Series (Fit Epoch/Period)



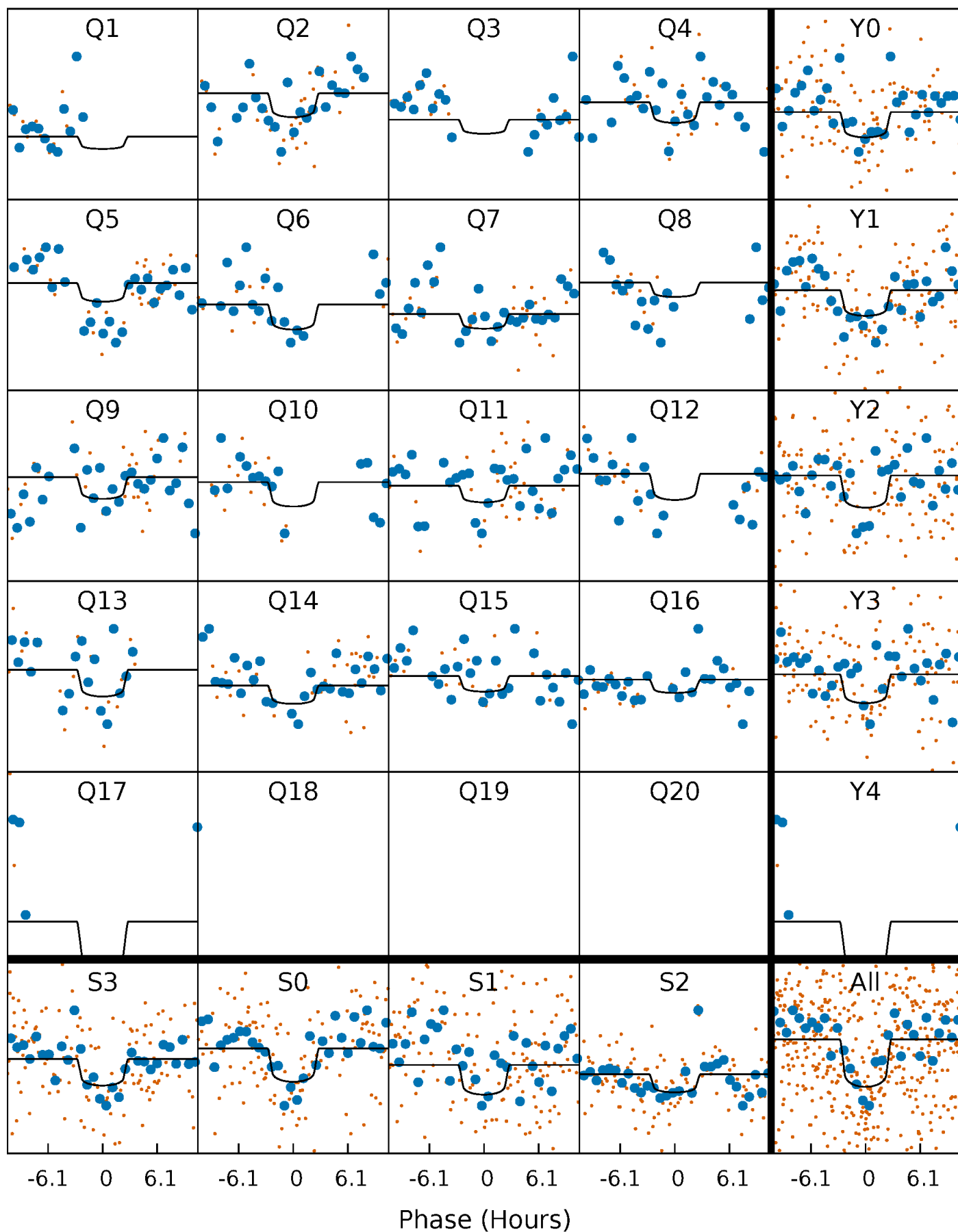
PDC Quarter-Phased Transit Curves

TCE 008553462-06 P= 15.001439 Days $T_0=132.186757$ (BKJD)



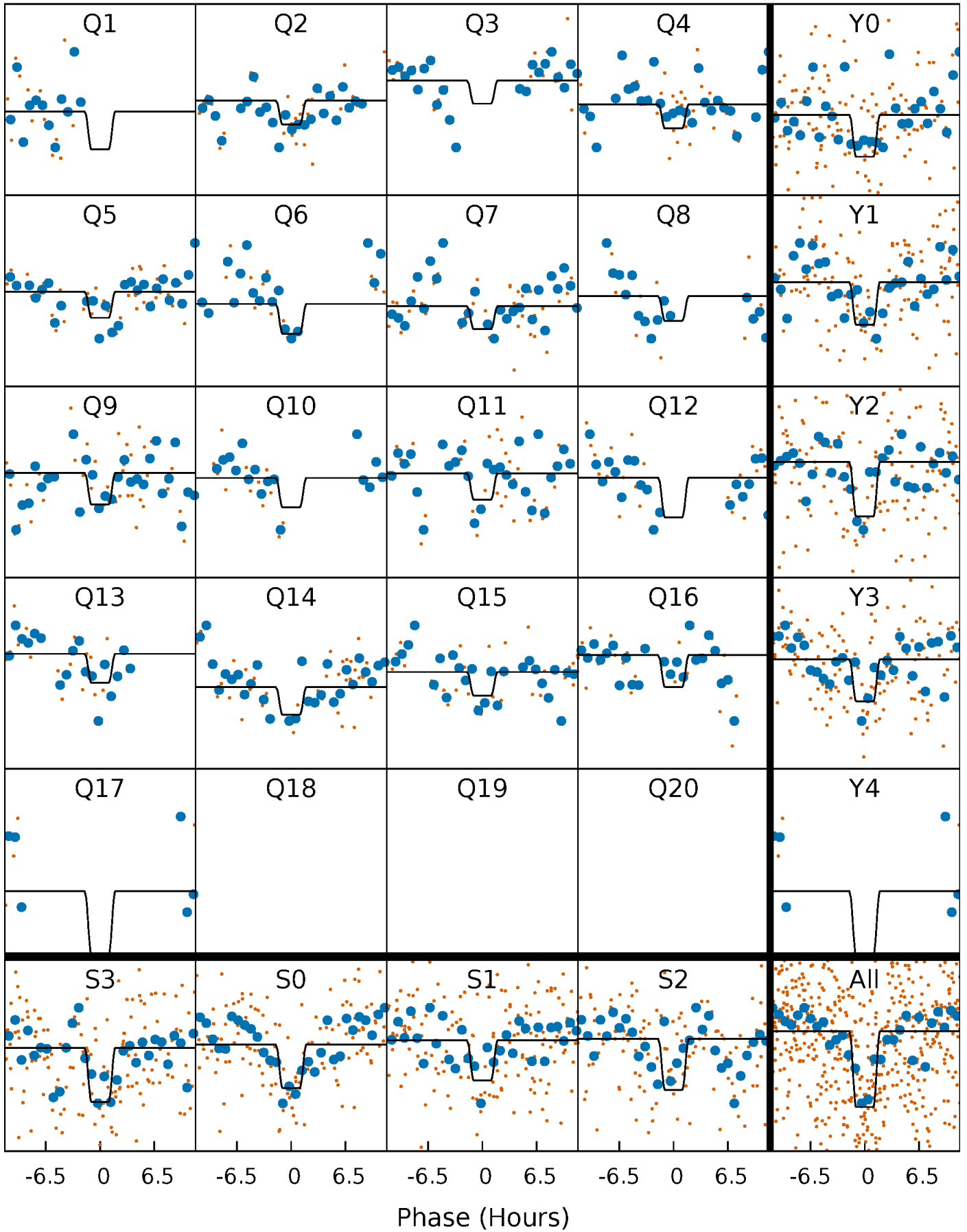
DV Quarter-Phased Transit Curves

TCE 008553462-06 P= 15.001439 Days $T_0=132.186757$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

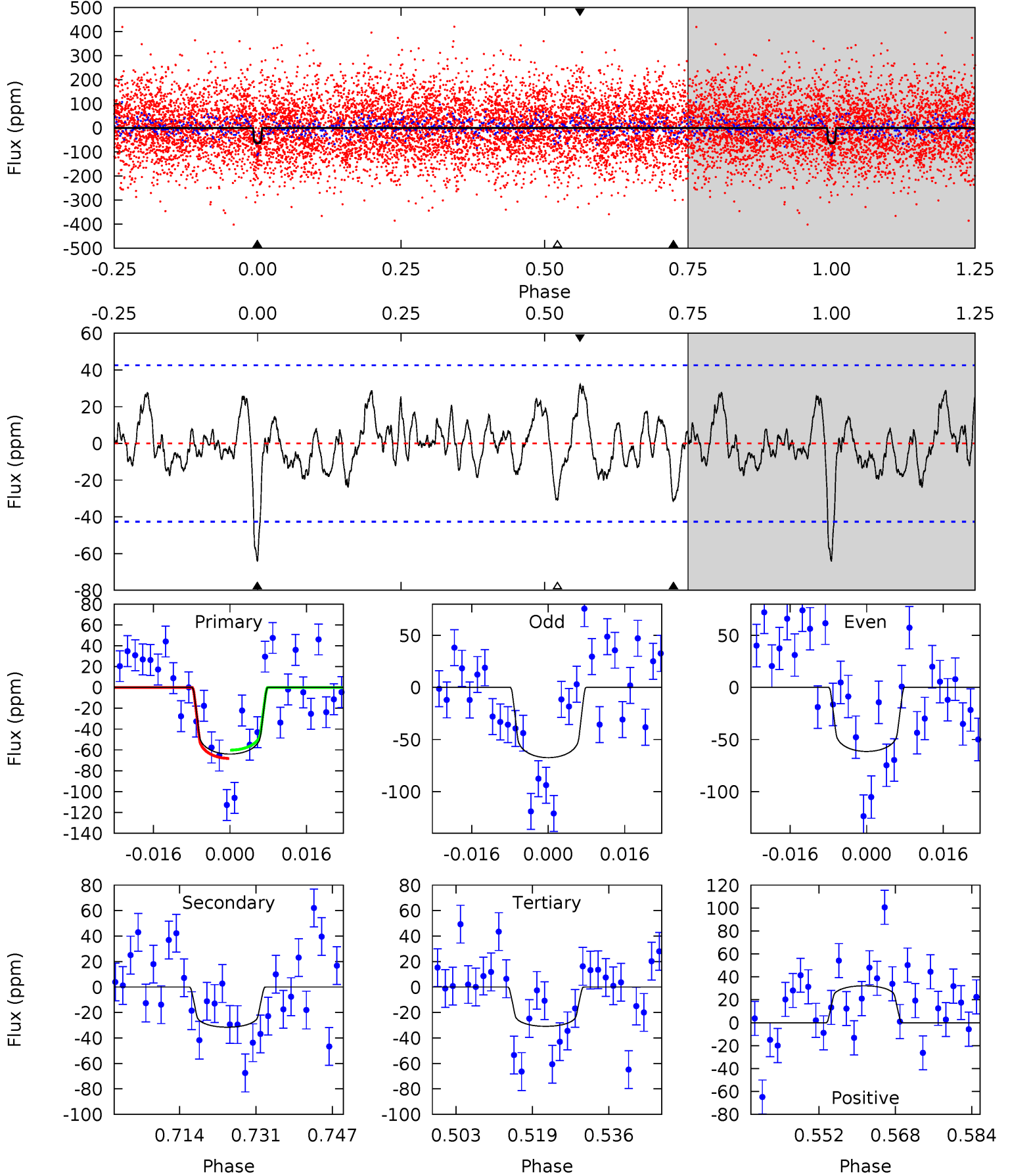
TCE 008553462-06 P= 15.001749 Days $T_0=132.176012$ (BKJD)



DV Model-Shift Uniqueness Test

008553462-06, $P = 15.001439$ Days, $E = 132.186757$ Days

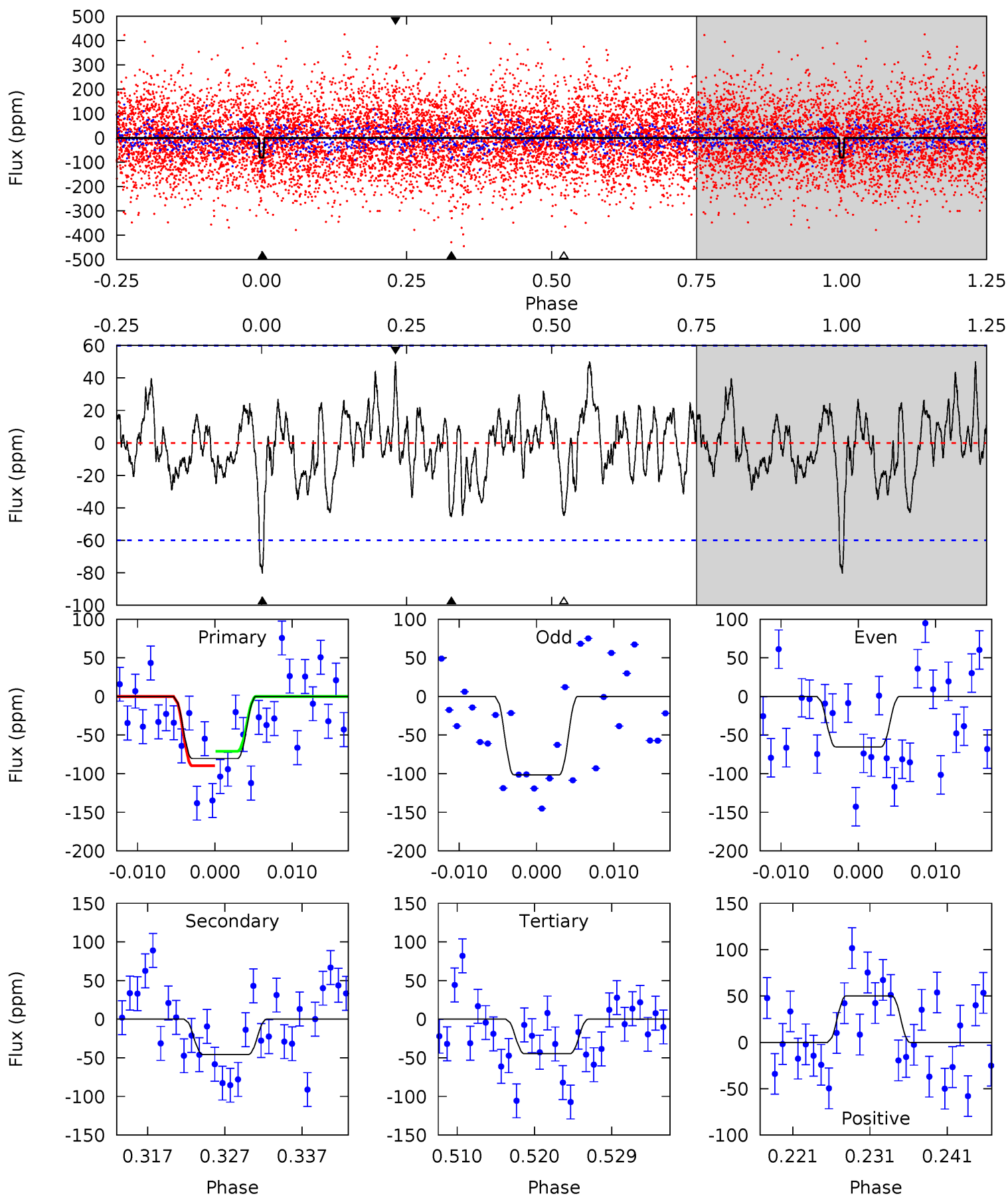
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.40	3.65	3.57	3.72	4.93	2.40	1.36	3.83	3.68	0.08	-0.07	0.34	0.97	0.33	0.46



Alt Model-Shift Uniqueness Test

008553462-06, P = 15.001749 Days, E = 132.176012 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.75	3.84	3.76	4.21	5.03	2.59	1.40	2.99	2.54	0.08	-0.37	1.51	0.94	0.38	0.79



Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-06 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-32 ± 9	$1.83^{+0.89}_{-0.89}$	1636^{+125}_{-103}	5674^{+2424}_{-941}	96^{+262}_{-55}
Alt.	-46 ± 12	$2.07^{+0.96}_{-0.88}$	1635^{+126}_{-97}	5798^{+1997}_{-942}	109^{+240}_{-61}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
 A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

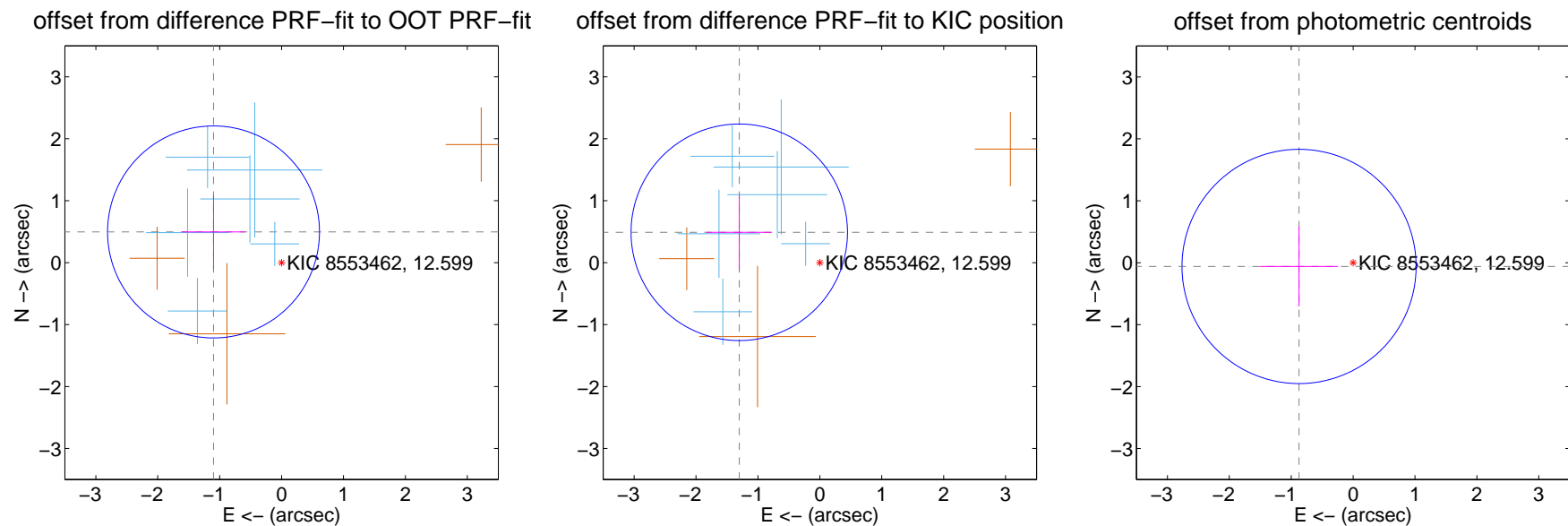
DV Centroid Data

Supplemental centroid analysis for 008553462-06. Kepler magnitude: 12.60. Transit SNR 10.17

There are 6 quarters with good PRF difference image offsets

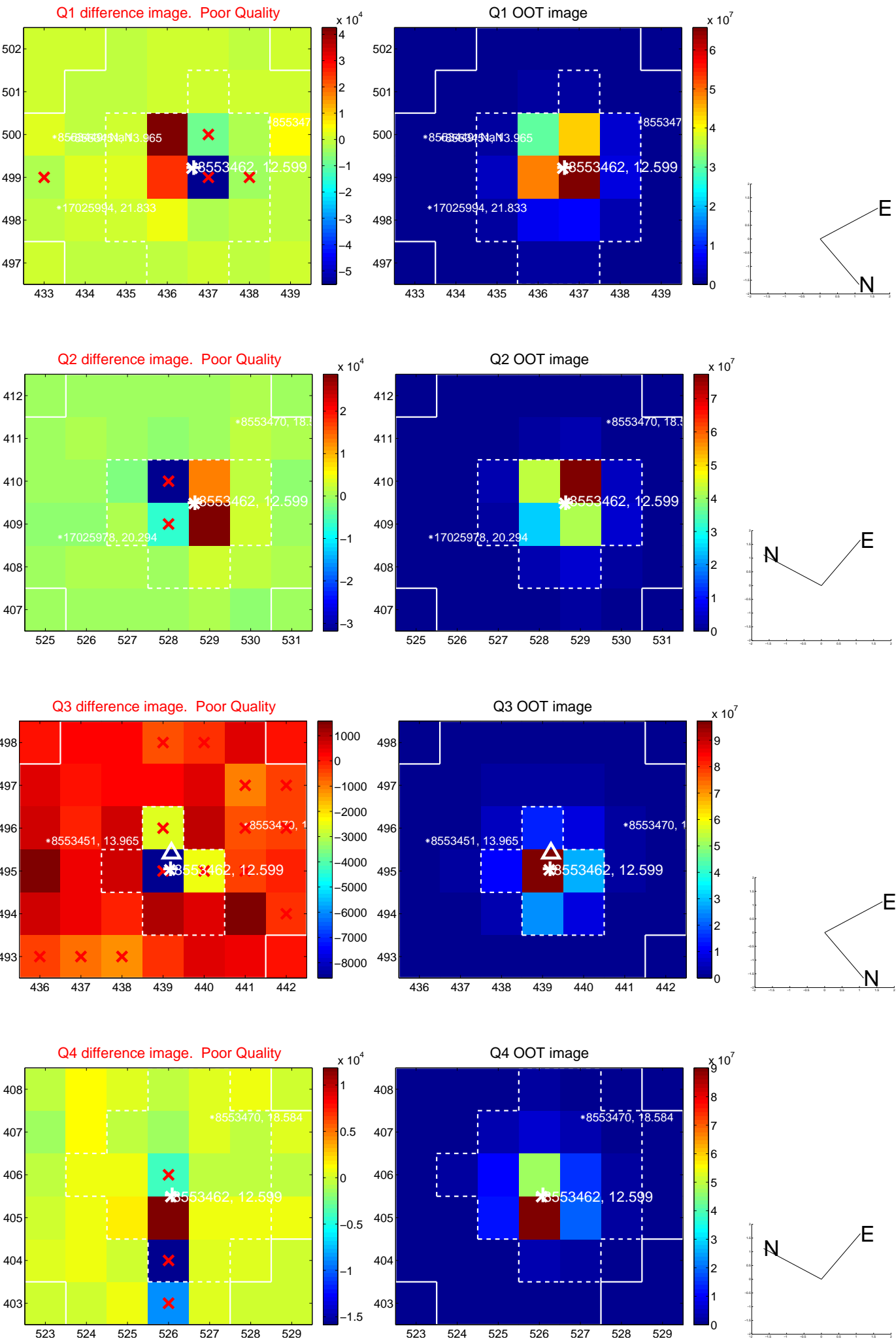
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.206 ± 0.570	2.11	1.099 ± 0.507	0.496 ± 0.597
PRF-fit source offset from KIC position	1.391 ± 0.583	2.39	1.302 ± 0.528	0.490 ± 0.604
photometric centroid source offset	0.88 ± 0.63	1.39	0.87 ± 0.63	-0.06 ± 0.64

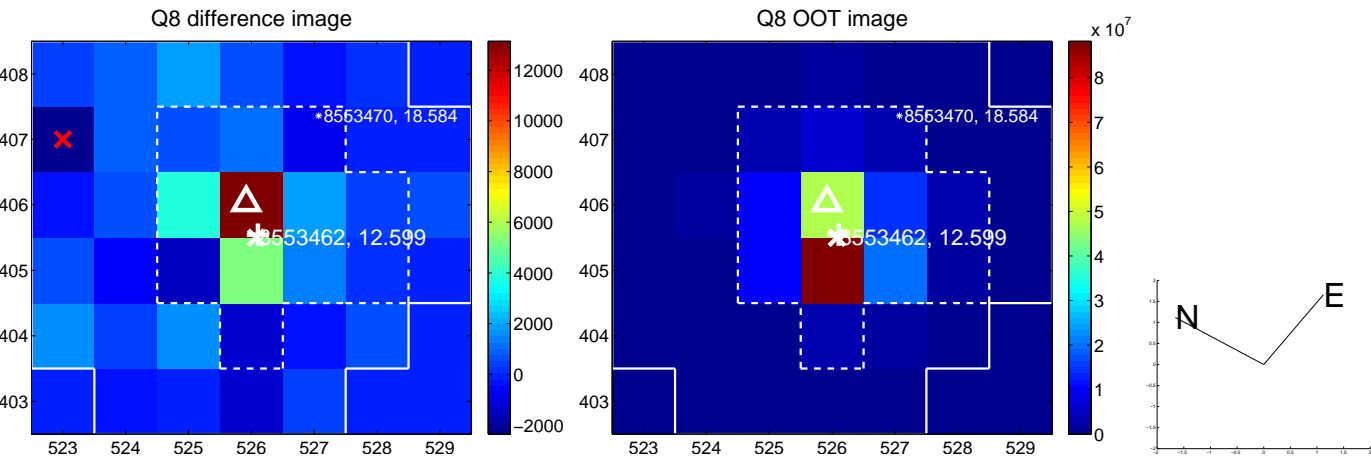
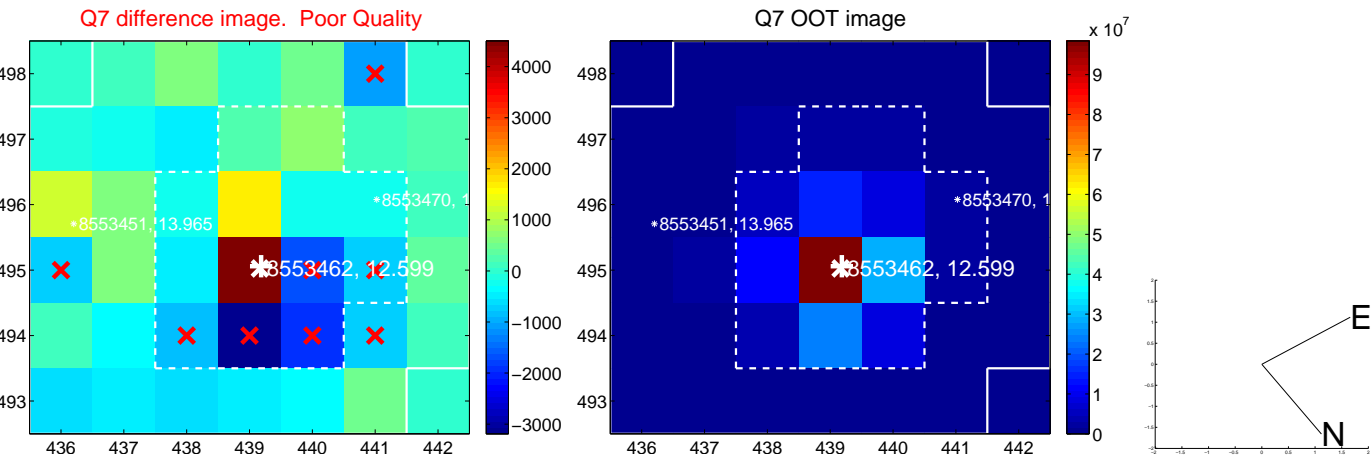
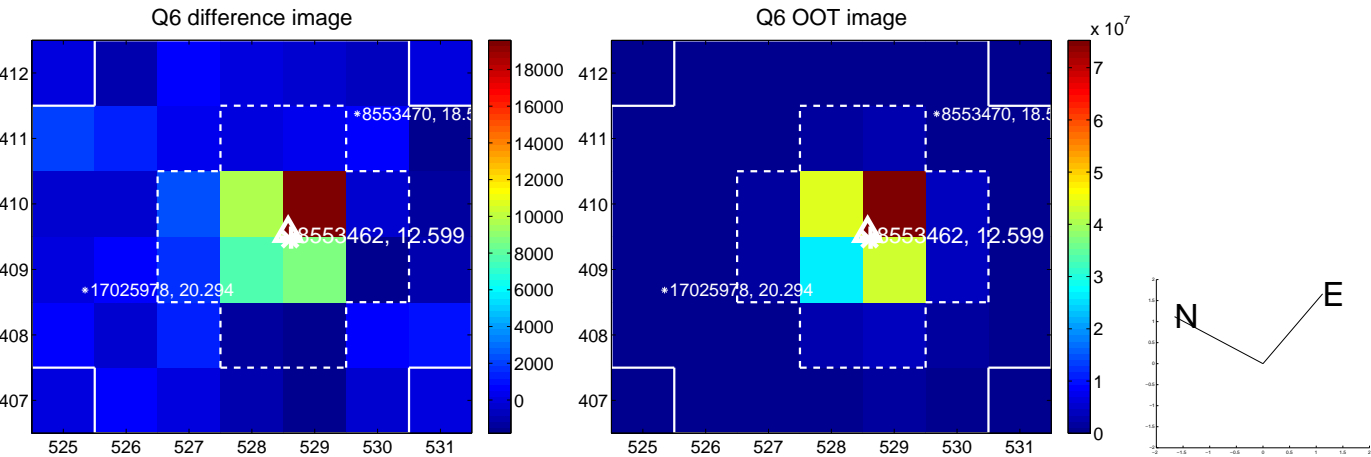
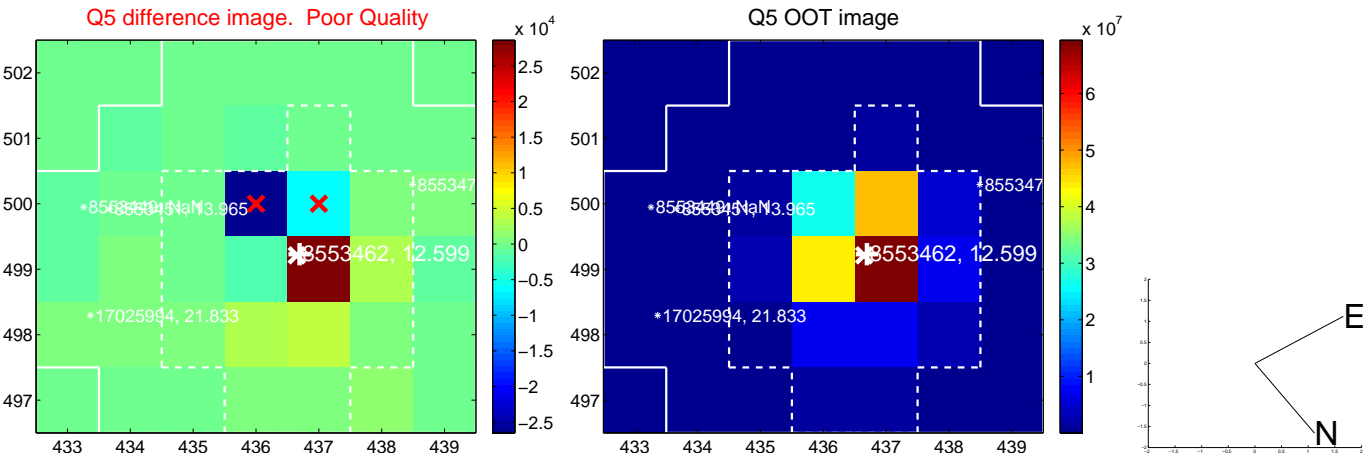


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

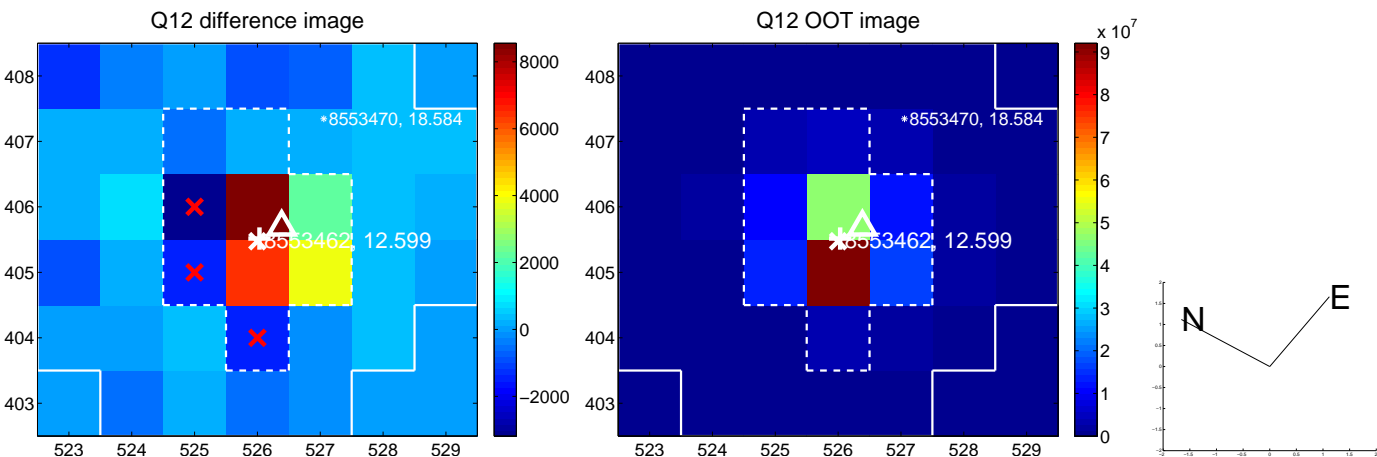
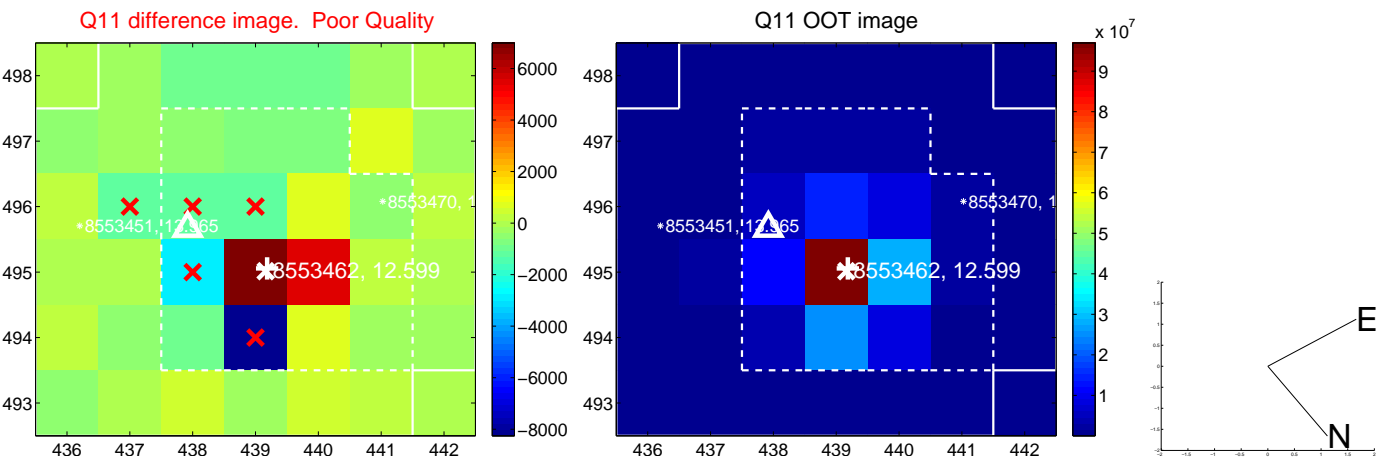
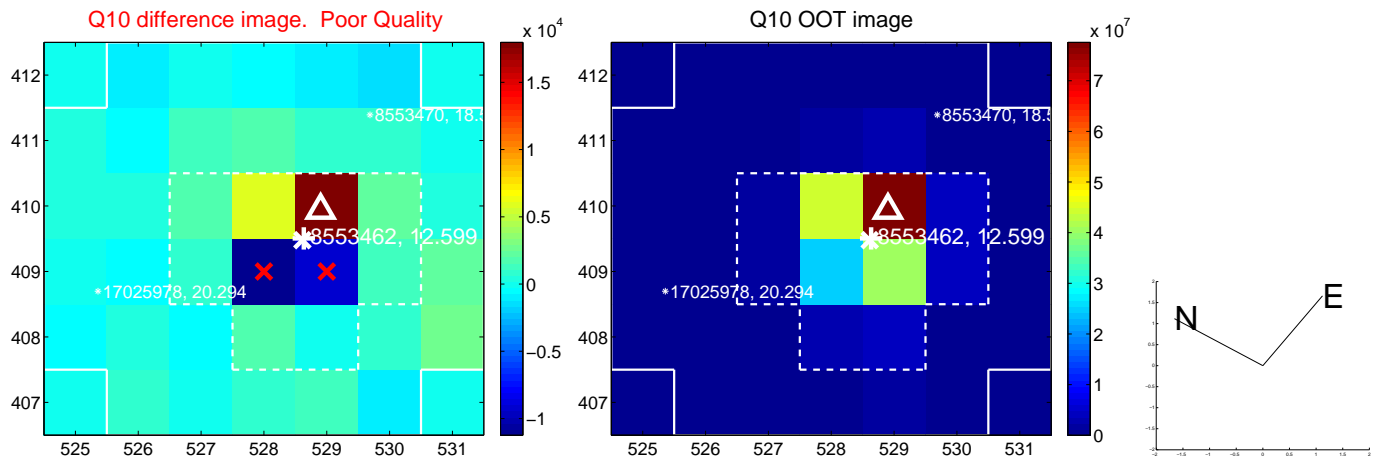
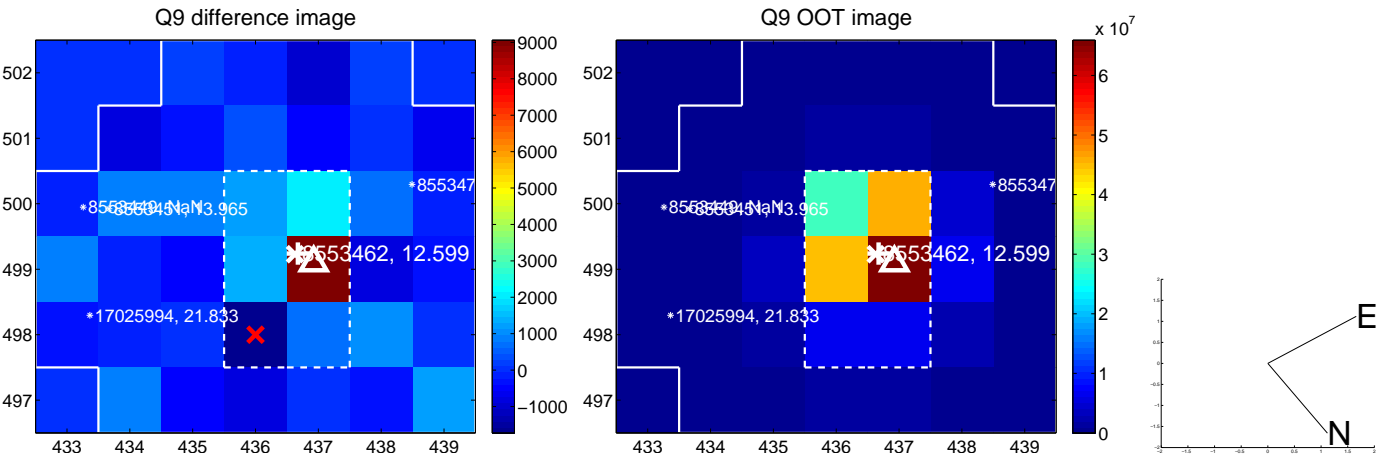
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



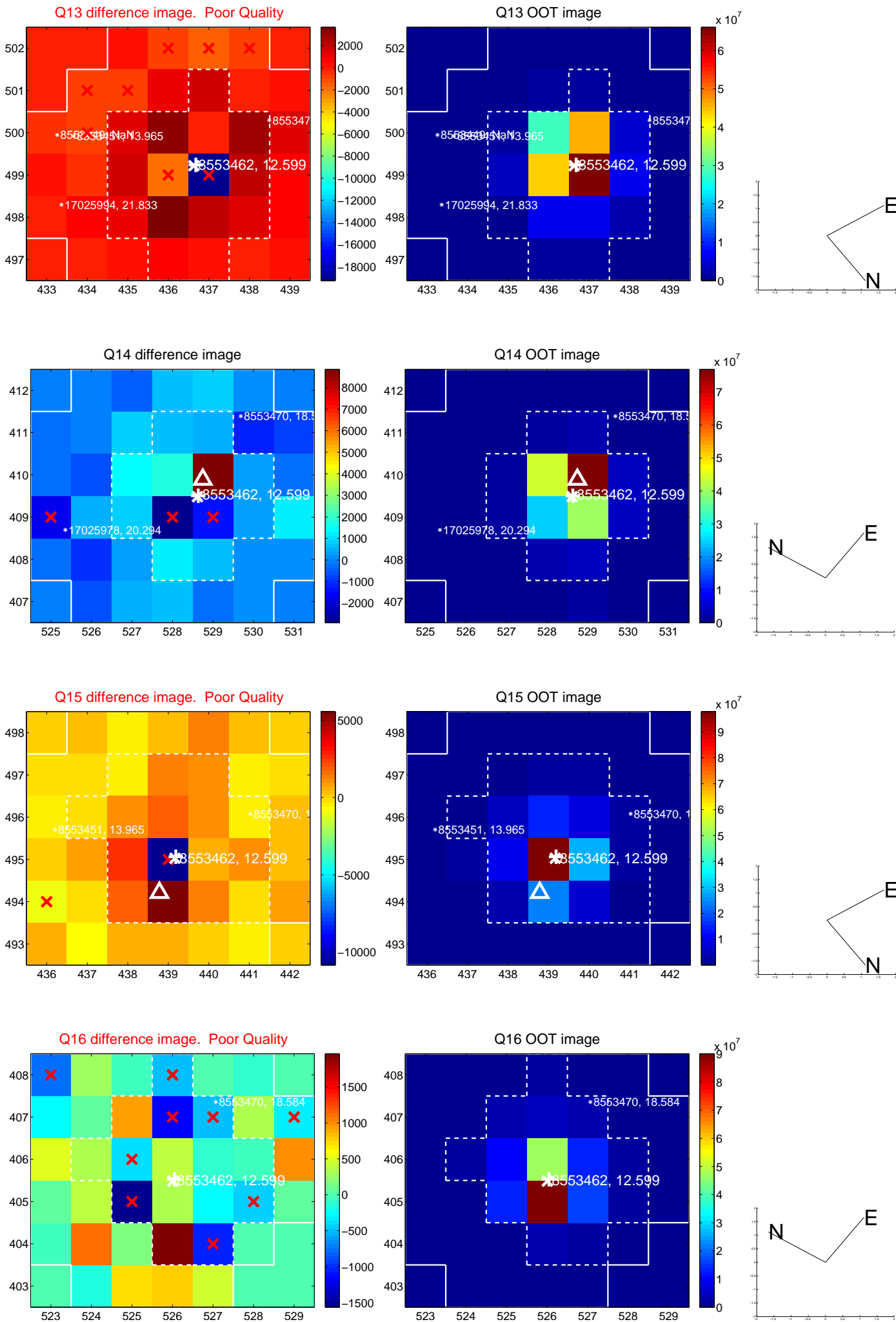
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



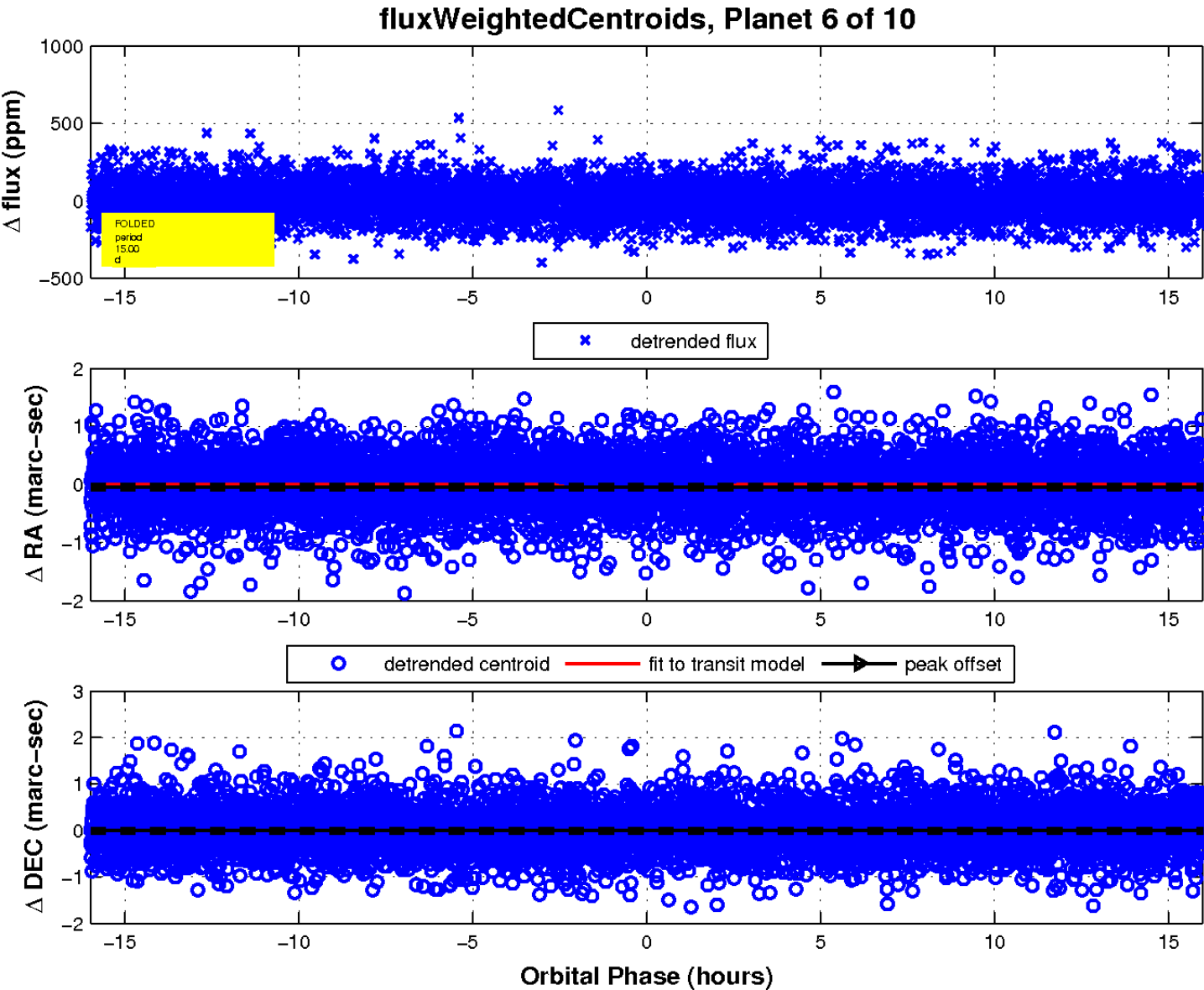
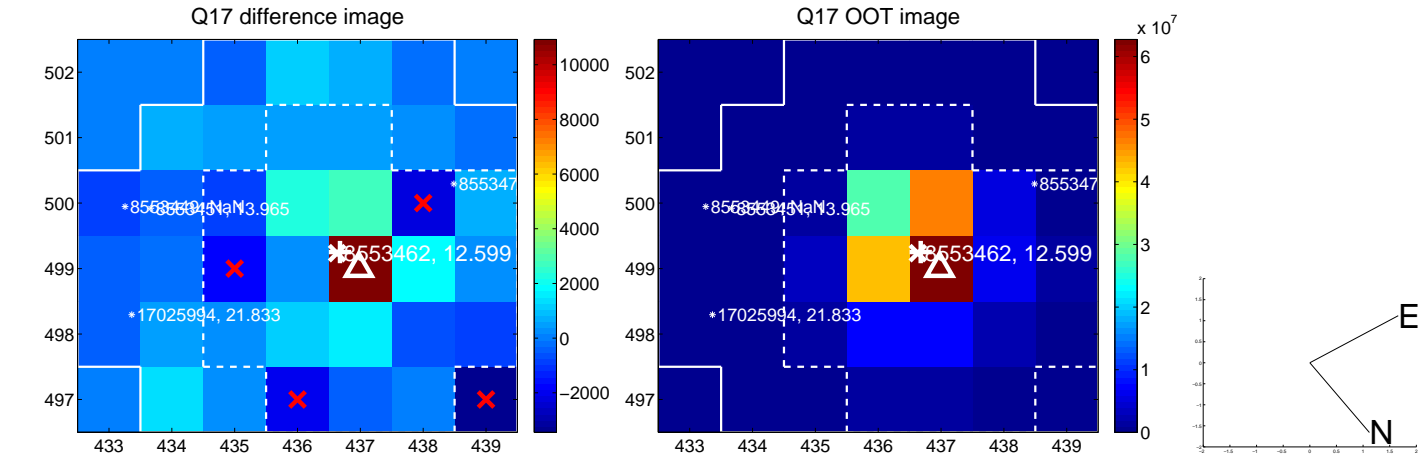
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

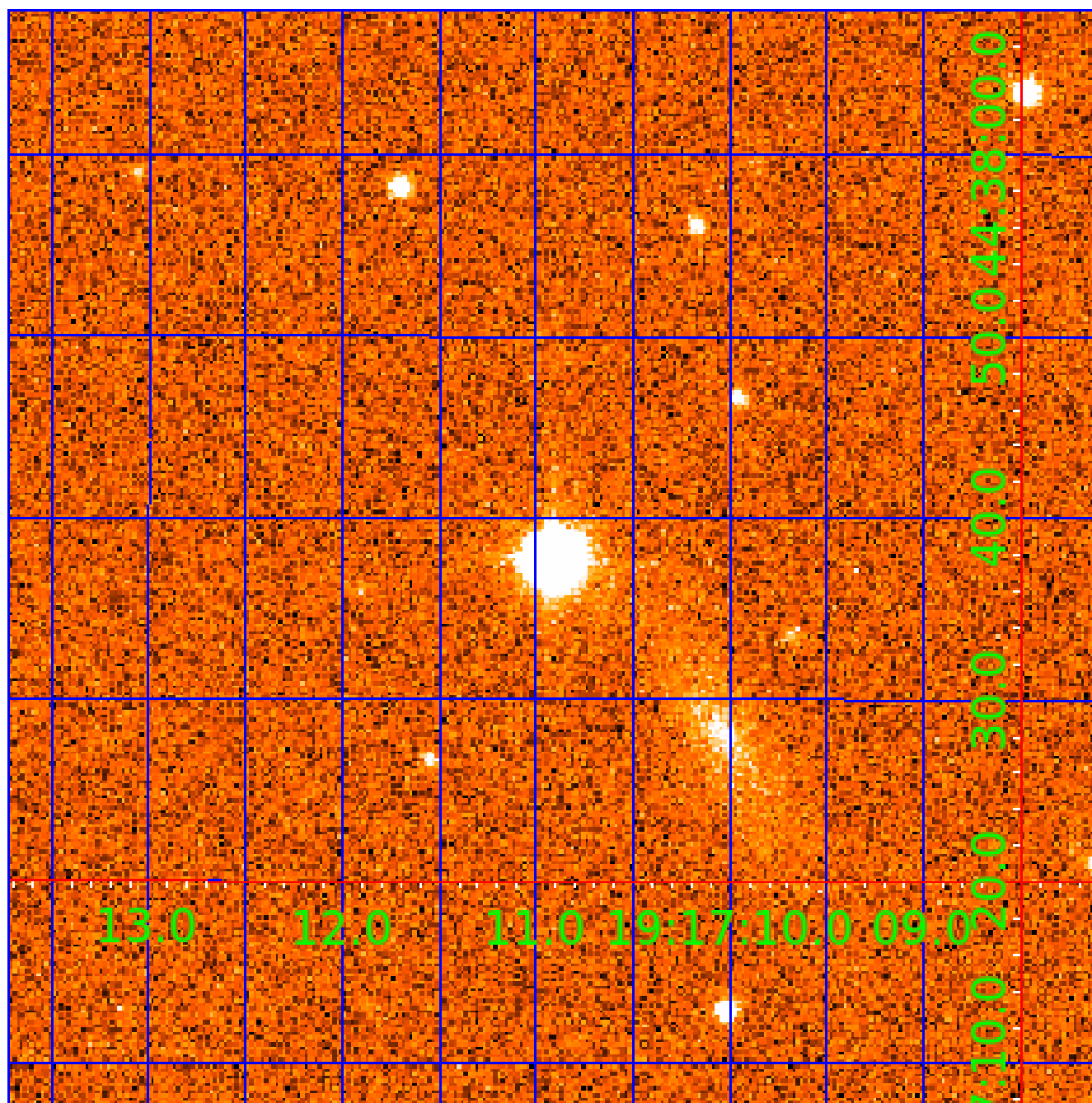


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008553462-01	OBS	No	2.768998	134.441172	0.0	18.950	9.1	0.0	1.84	7296	0.04	4252.50
008553462-02	OBS	No	168.691133	165.172770	602.2	19.886	24.6	22.0	1.84	7296	8.50	17.74
008553462-03	OBS	No	169.273644	193.500394	205.1	21.249	17.4	12.1	1.84	7296	2.77	17.66
008553462-04	OBS	No	215.902359	155.628727	135.2	9.415	10.6	10.0	1.84	7296	2.42	12.77
008553462-05	OBS	No	86.462681	131.957604	195.8	2.322	9.6	9.9	1.84	7296	2.98	43.25
008553462-06	OBS	No	15.001439	132.186756	73.2	5.330	8.7	10.2	1.84	7296	1.80	446.92
008553462-07	OBS	No	265.683201	389.849295	210.2	64.946	9.4	9.8	1.84	7296	2.93	9.68
008553462-08	OBS	No	82.624800	210.760893	185.7	2.972	9.0	8.8	1.84	7296	2.94	45.95
008553462-09	OBS	No	143.910724	263.113872	178.3	4.800	8.7	8.3	1.84	7296	2.86	21.93
008553462-10	OBS	No	42.186045	144.620372	281.0	1.500	9.1	-1.0	1.84	7296	3.14	112.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553462-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008553462-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

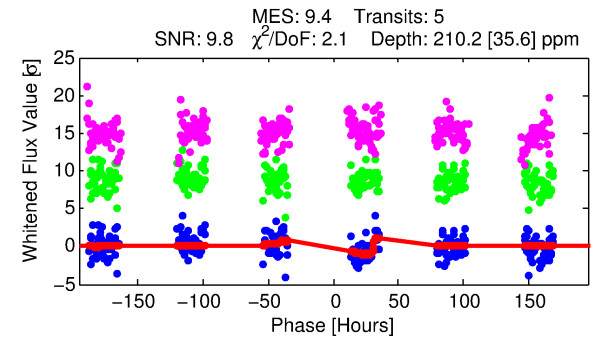
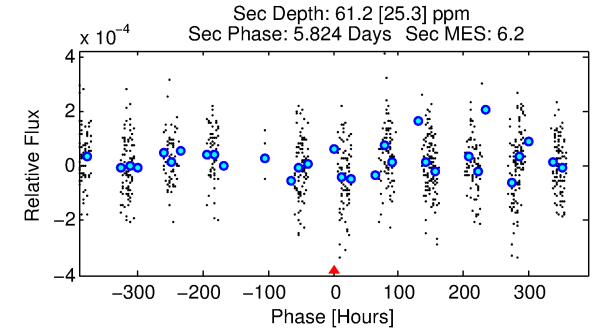
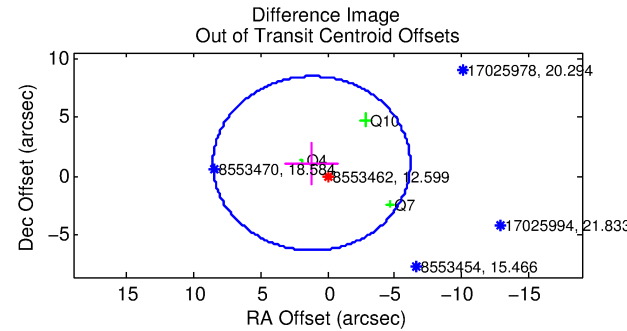
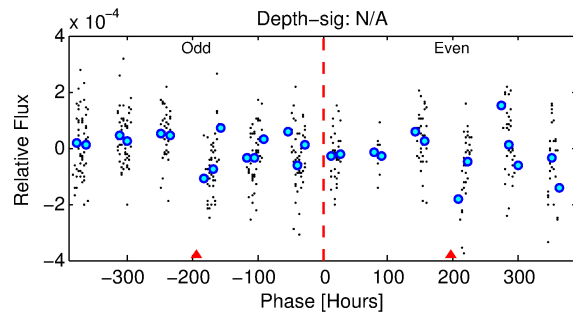
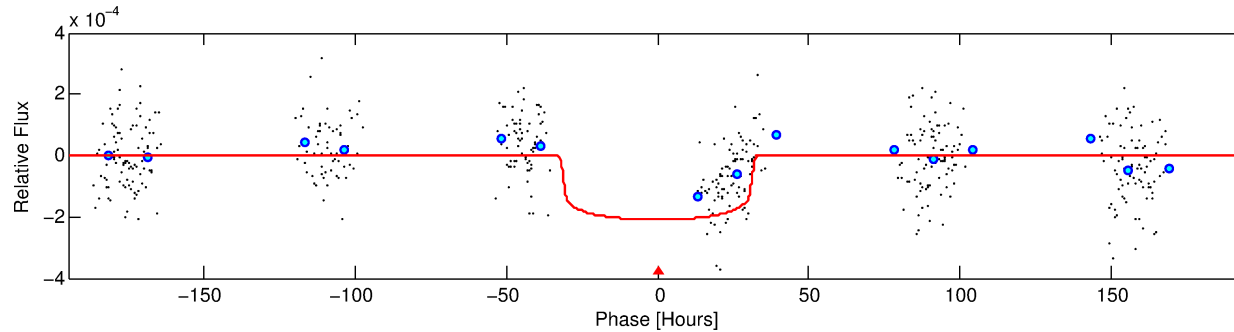
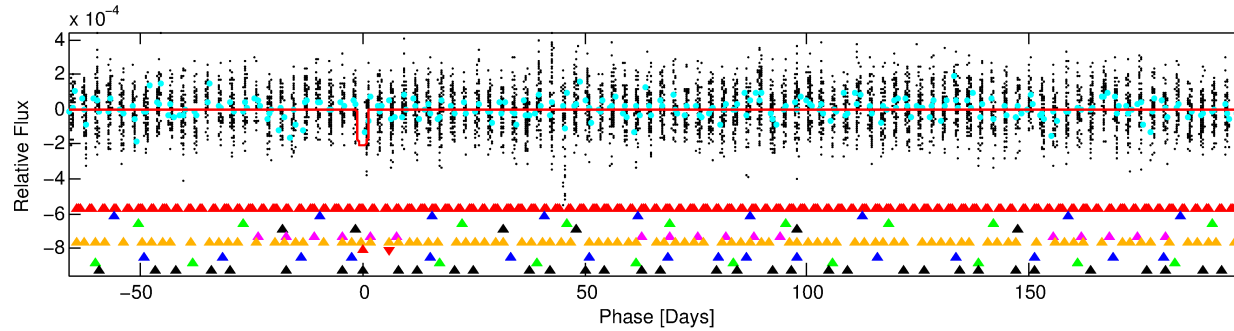
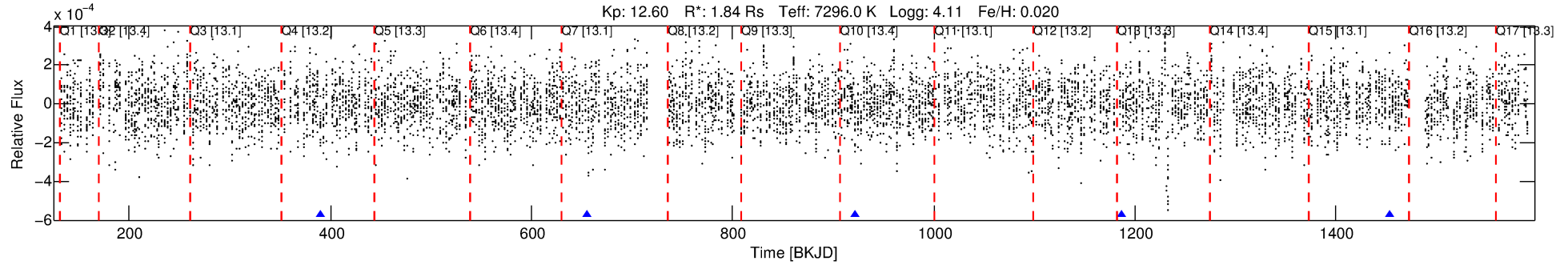
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-07

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 7 of 10 Period: 265.683 d



DV Fit Results:

Period = 265.68320 [0.04546] d
Epoch = 389.8493 [0.1805] BKJD
Rp/R* = 0.0145 [0.0016]
a/R* = 20.24 [7.78]
b = 0.78 [0.19]
Seff = 9.68 [3.78]
Teq = 450 [44] K
Rp = 2.93 [0.94] Re
a = 0.9443 [0.2334] AU
Ag = 3503.88 [2038.28] [1.72σ]
Teffp = 5350 [664] K [7.36σ]

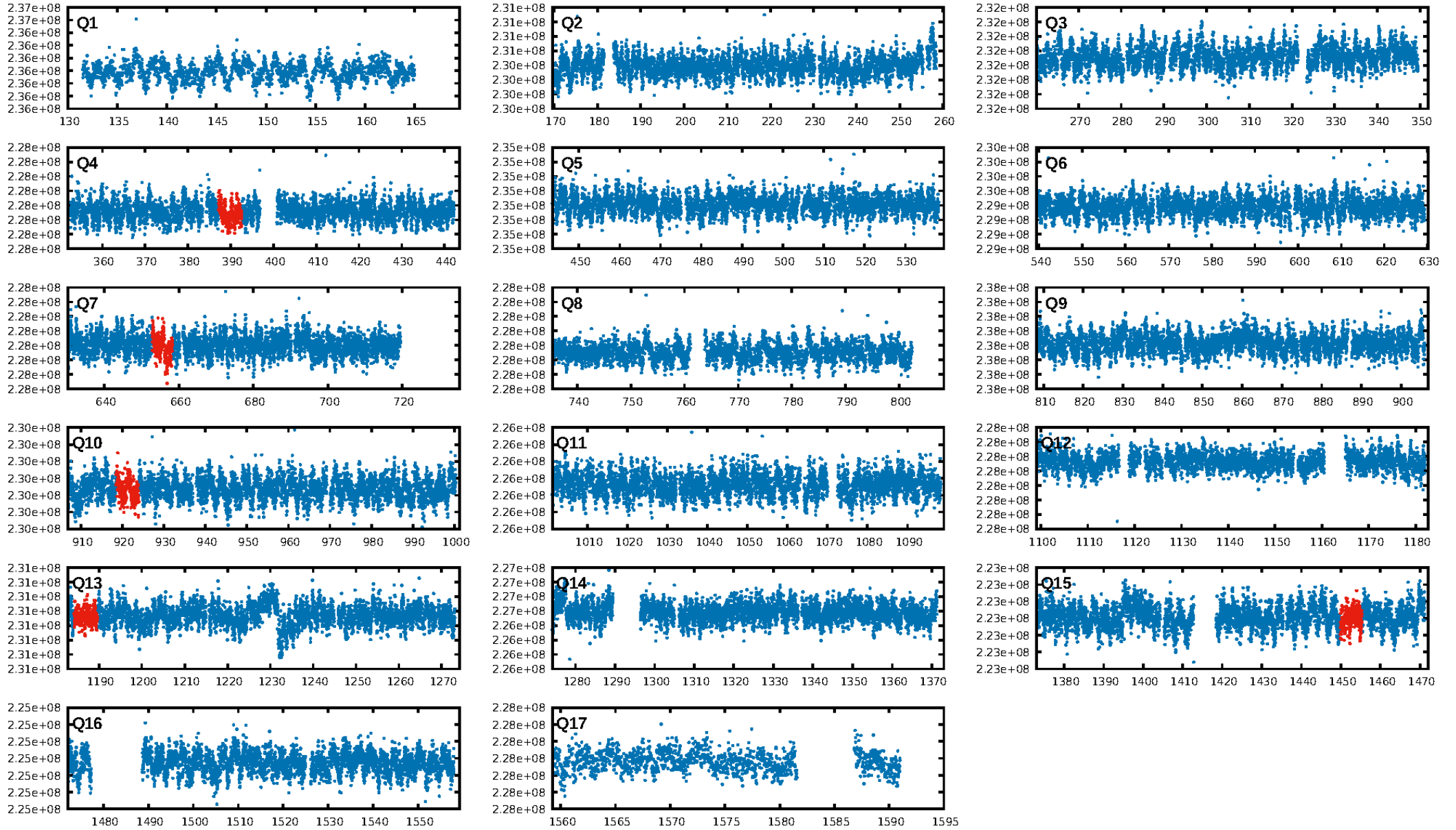
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [18.21σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 0.7%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [5/5]
GhostDiagnostic-chr: -1.558
Centroid-sig: 24.5%
Centroid-so: 0.497 arcsec [1.10σ]
OotOffset-rm: 1.615 arcsec [0.66σ]
KicOffset-rm: 1.751 arcsec [0.87σ]
OotOffset-st: 1/1/1/0 [3]
KicOffset-st: 1/1/1/0 [3]
DiffImageQuality-fgm: 0.33 [1/3]
DiffImageOverlap-fno: 0.00 [0/3]

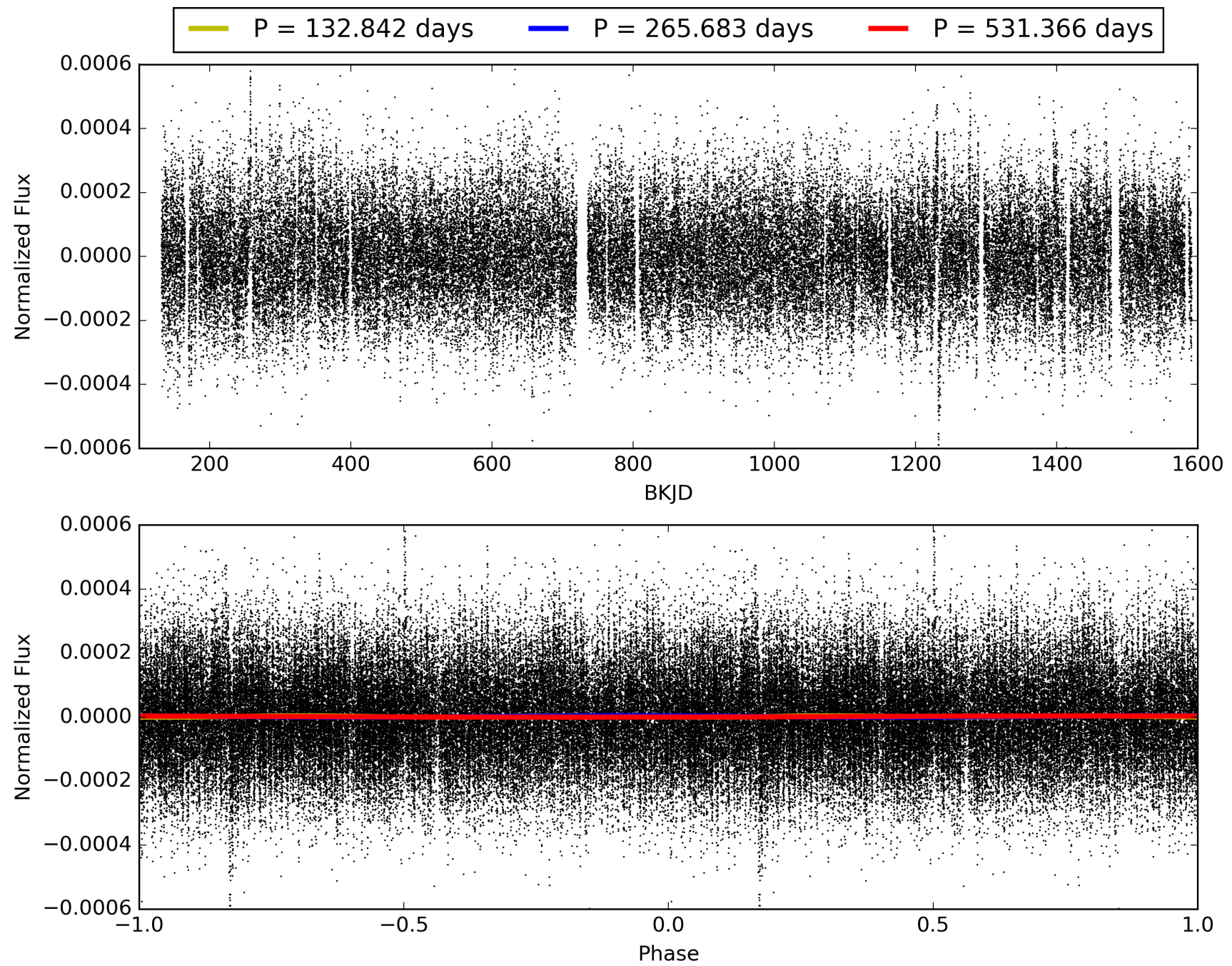
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:18:29 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008553462-07, PDC Light Curves

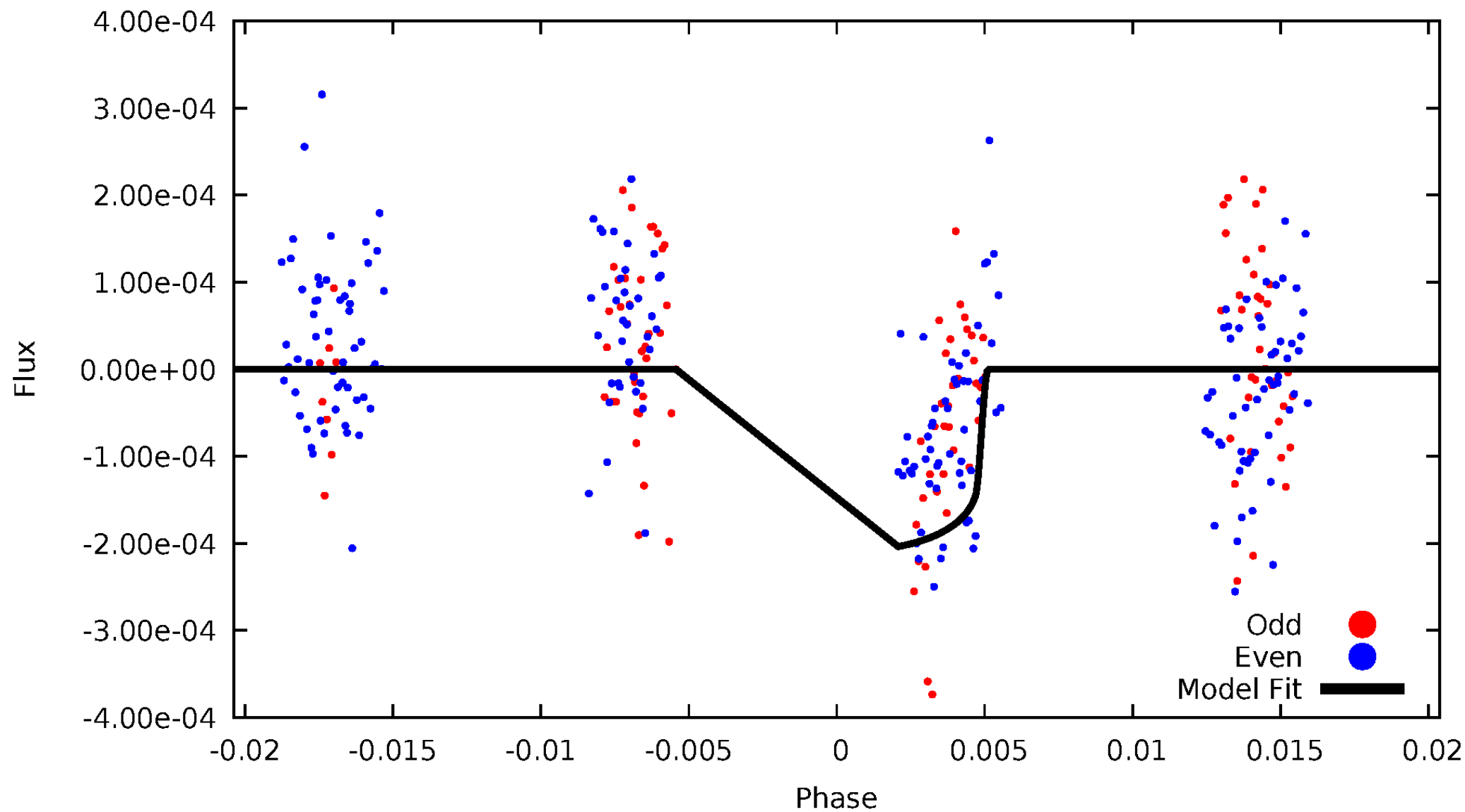


TCE 008553462-07



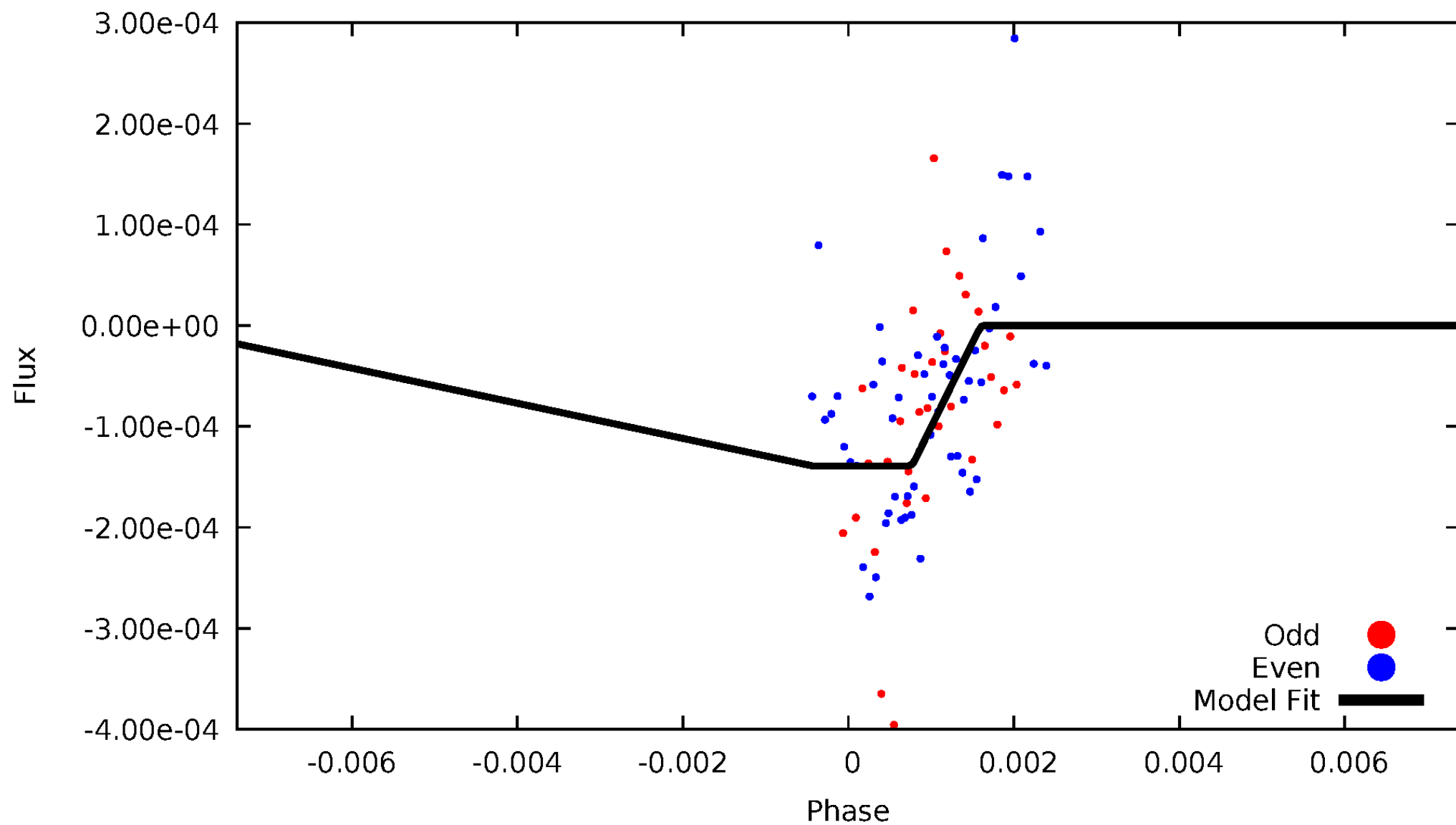
DV Odd/Even

TCE 008553462-07



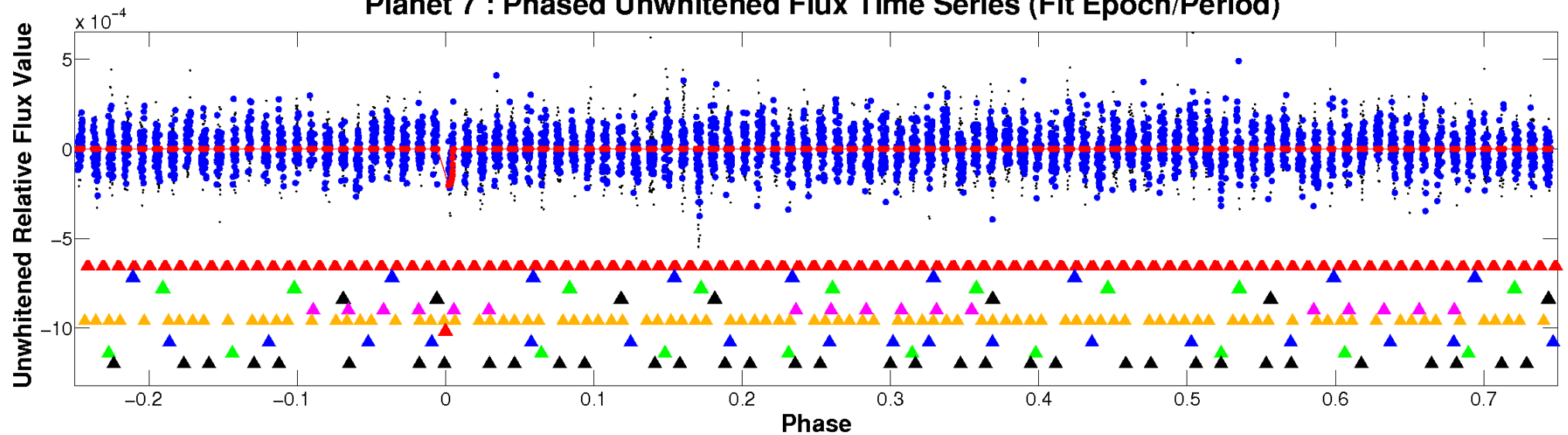
ALT Odd/Even

TCE 008553462-07

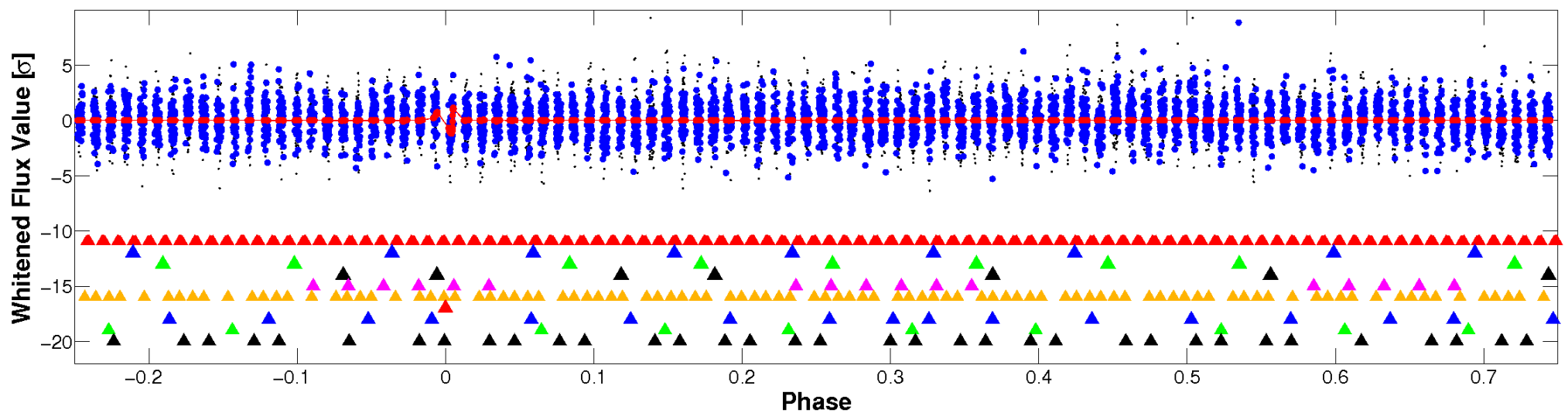


Non-Whitened Vs. Whitened Light Curve

Planet 7 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)



Planet 7 : Phased Whitened Flux Time Series (Fit Epoch/Period)



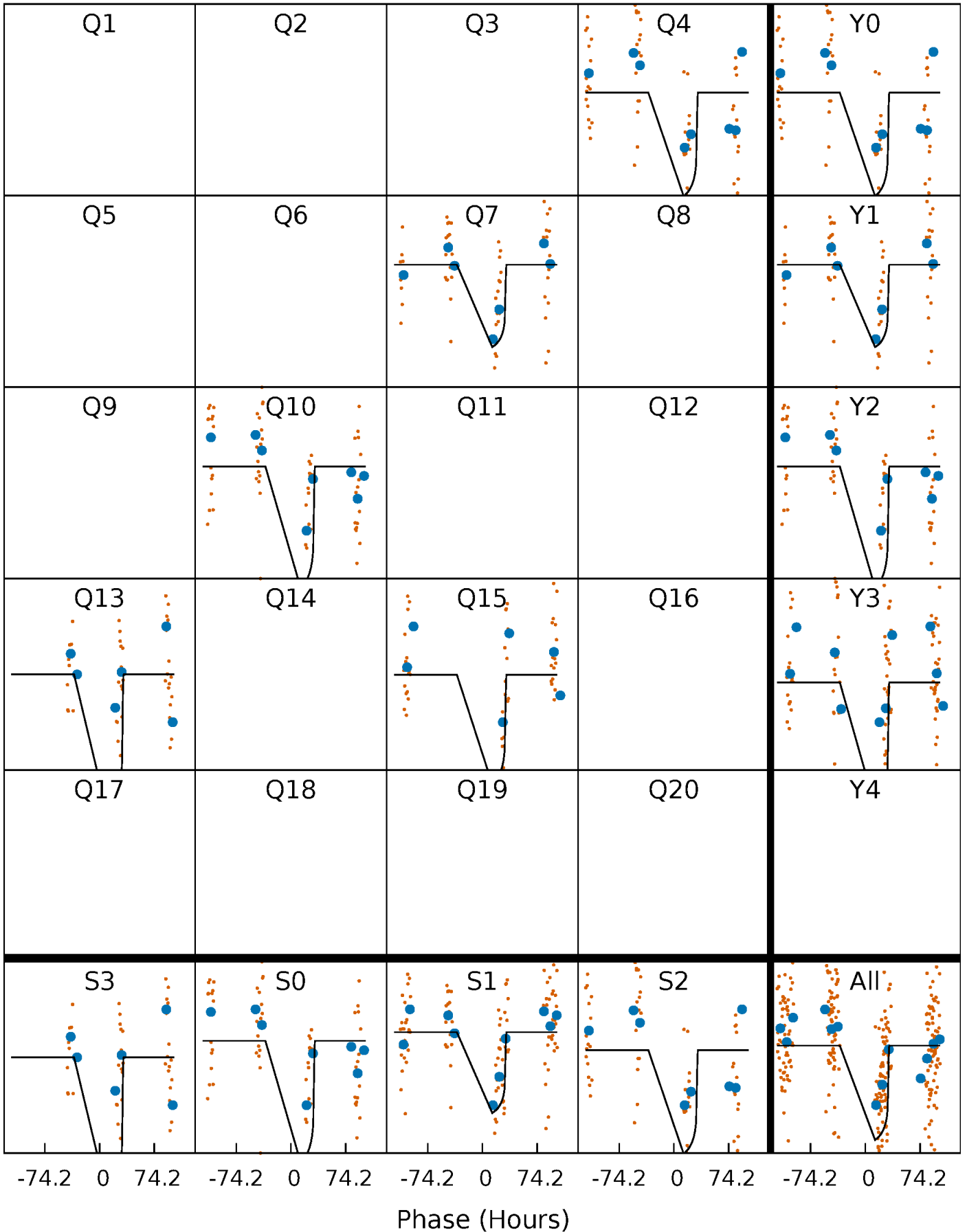
PDC Quarter-Phased Transit Curves

TCE 008553462-07 P=265.683201 Days $T_0=389.849294$ (BKJD)



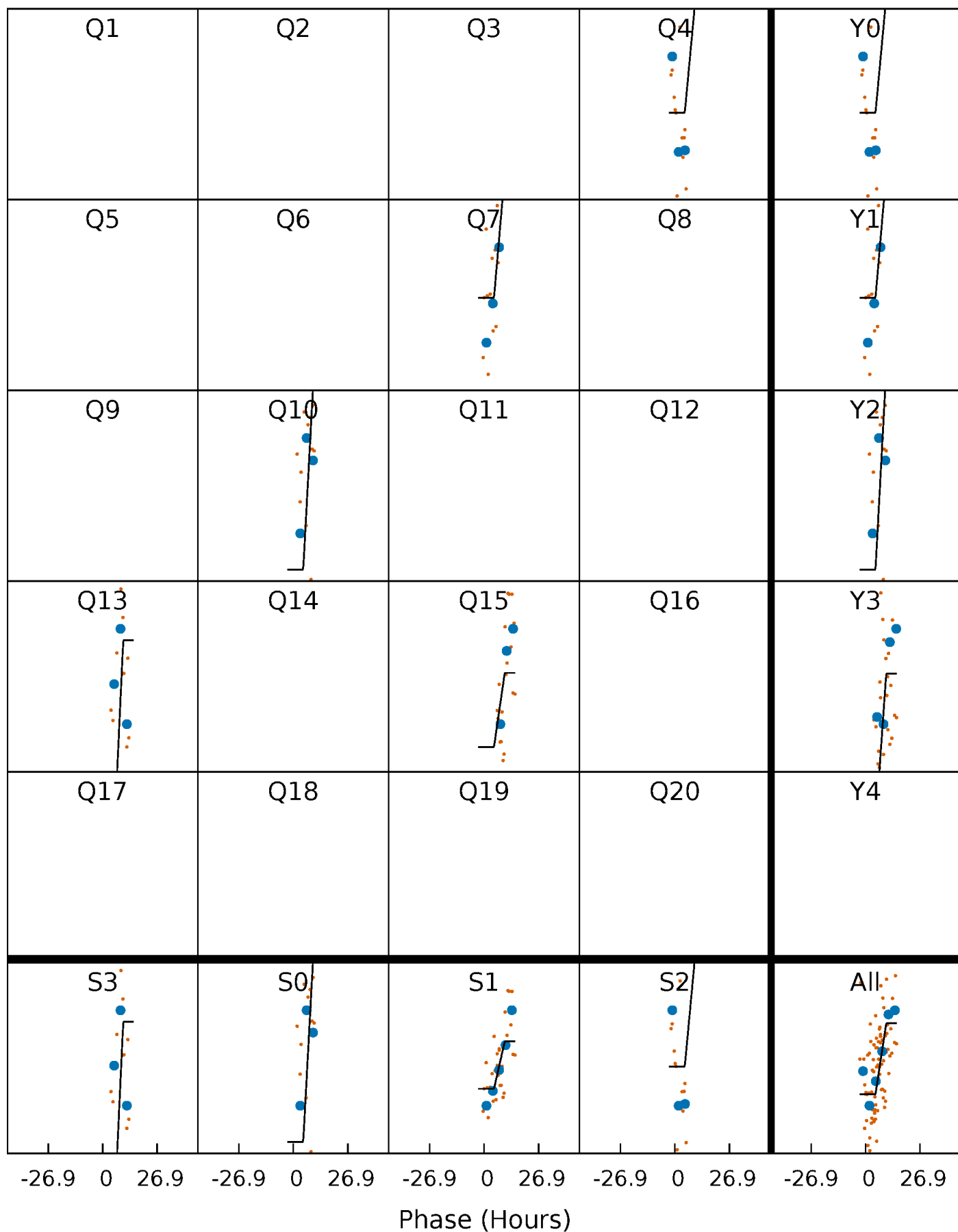
DV Quarter-Phased Transit Curves

TCE 008553462-07 $P=265.683201$ Days $T_0=389.849294$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

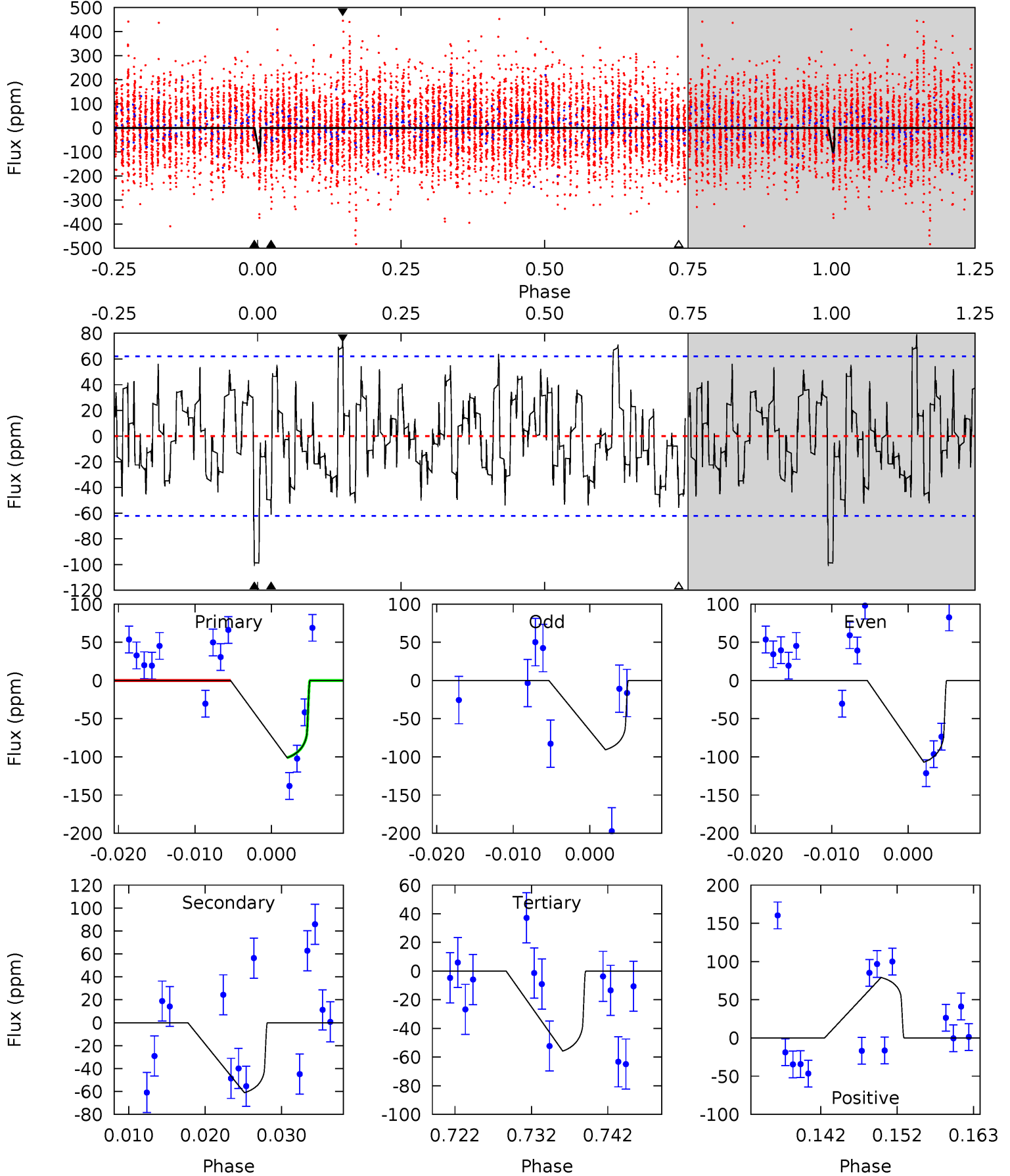
TCE 008553462-07 $P=265.724825$ Days $T_0=390.518969$ (BKJD)



DV Model-Shift Uniqueness Test

008553462-07, P = 265.683201 Days, E = 124.166093 Days

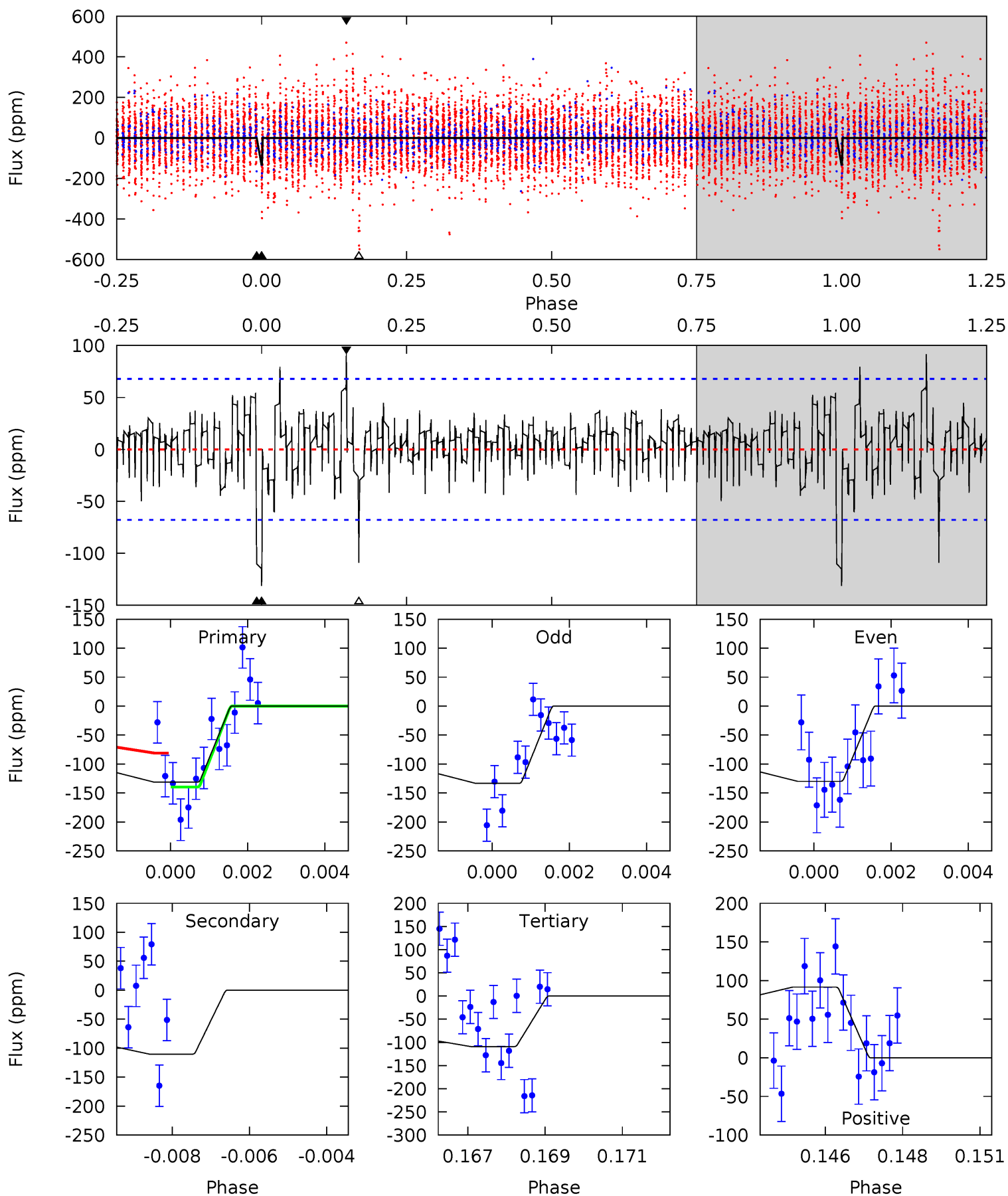
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
8.18	4.95	4.52	6.40	5.02	2.57	2.16	3.67	1.78	0.43	-1.46	0.65	0.99	0.44	0



Alt Model-Shift Uniqueness Test

008553462-07, P = 265.724825 Days, E = 124.794144 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
10.3	8.65	8.56	7.18	5.32	3.08	1.68	1.74	3.12	0.10	1.47	0.14	0.87	0.41	1.30



Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-07 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-61 ± 12	$2.97^{+0.62}_{-0.49}$	632^{+50}_{-42}	5294^{+398}_{-357}	3342^{+1413}_{-1174}
Alt.	-110 ± 13	$2.38^{+0.52}_{-0.41}$	627^{+50}_{-40}	6763^{+702}_{-502}	9278^{+4643}_{-3022}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
 A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

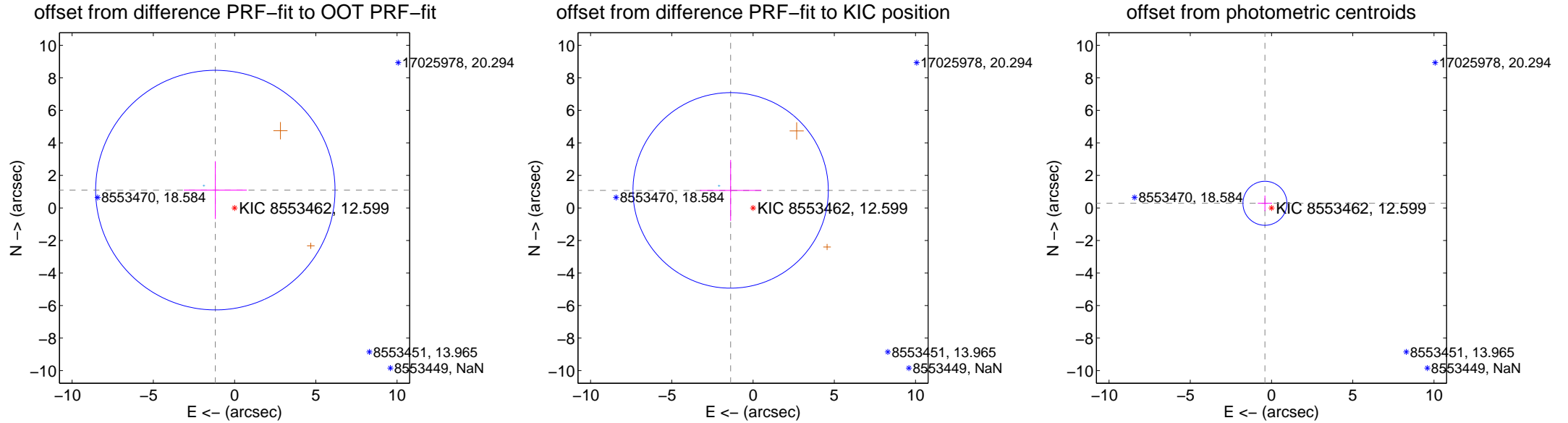
DV Centroid Data

Supplemental centroid analysis for 008553462-07. Kepler magnitude: 12.60. Transit SNR 9.76

There are 1 quarters with good PRF difference image offsets

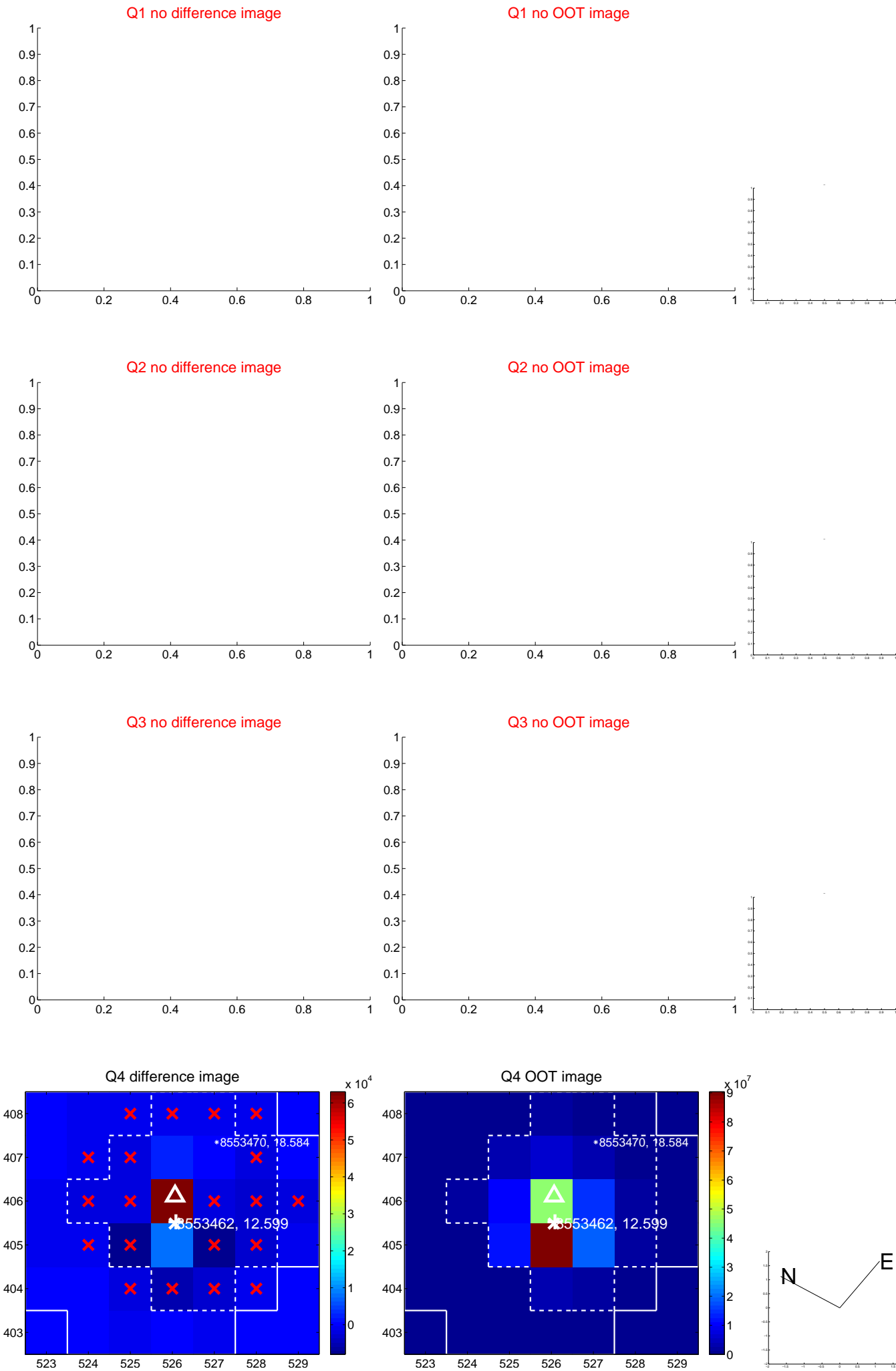
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.615 ± 2.455	0.66	1.184 ± 1.937	1.098 ± 1.776
PRF-fit source offset from KIC position	1.751 ± 2.003	0.87	1.379 ± 1.891	1.079 ± 1.872
photometric centroid source offset	0.50 ± 0.45	1.10	0.41 ± 0.44	0.29 ± 0.48

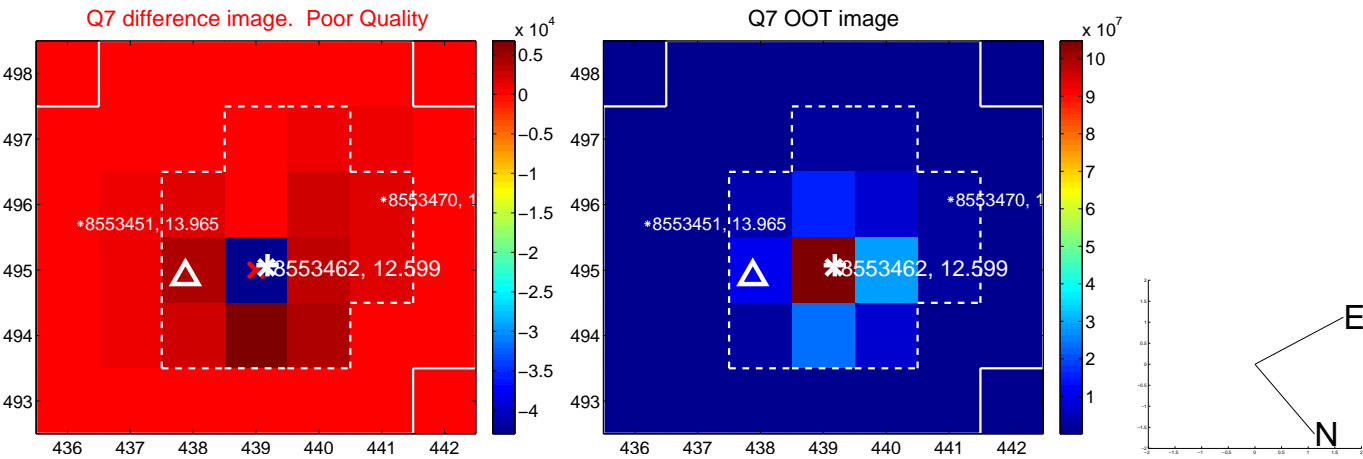


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

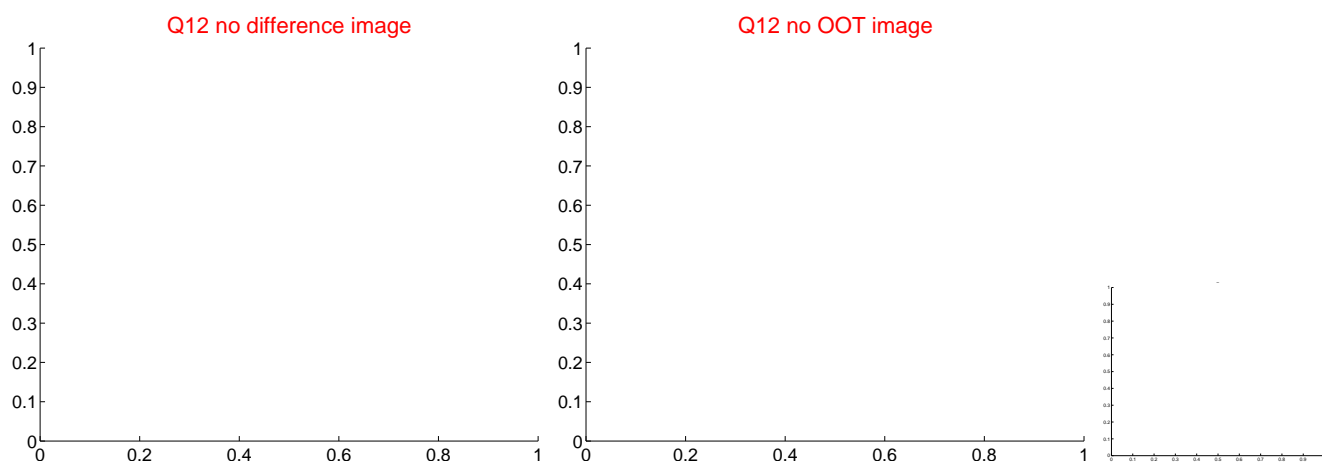
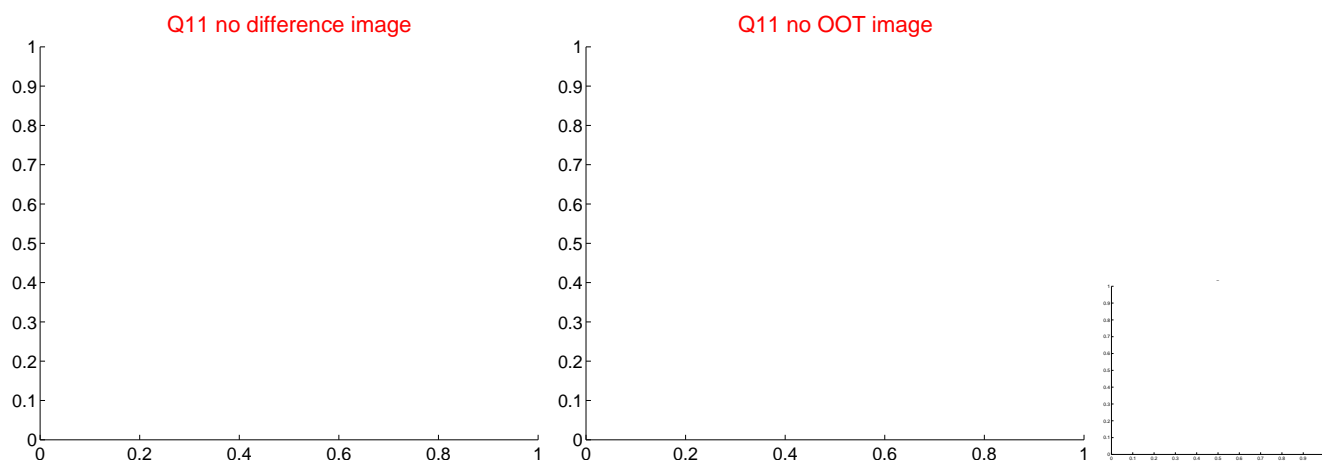
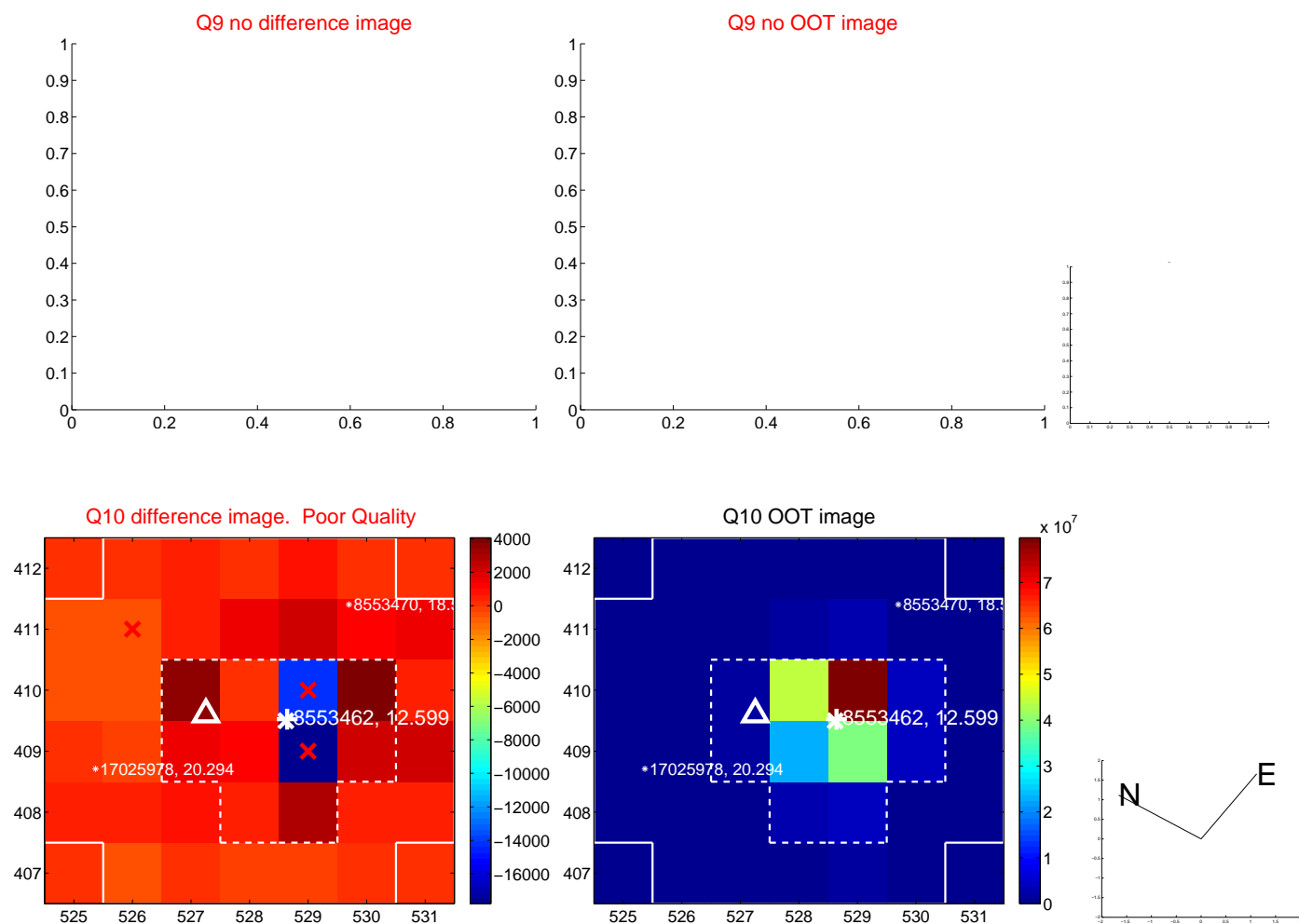
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



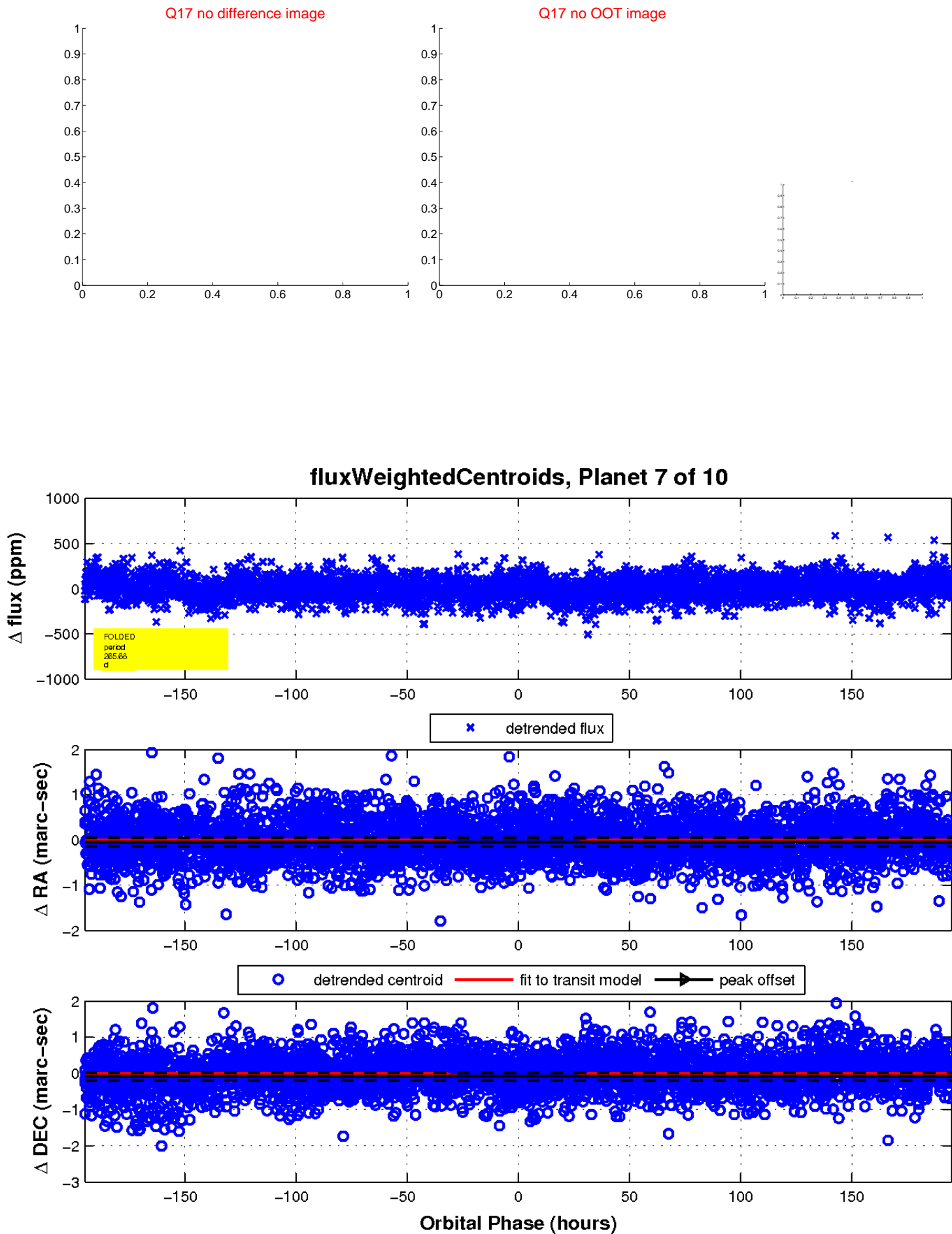
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

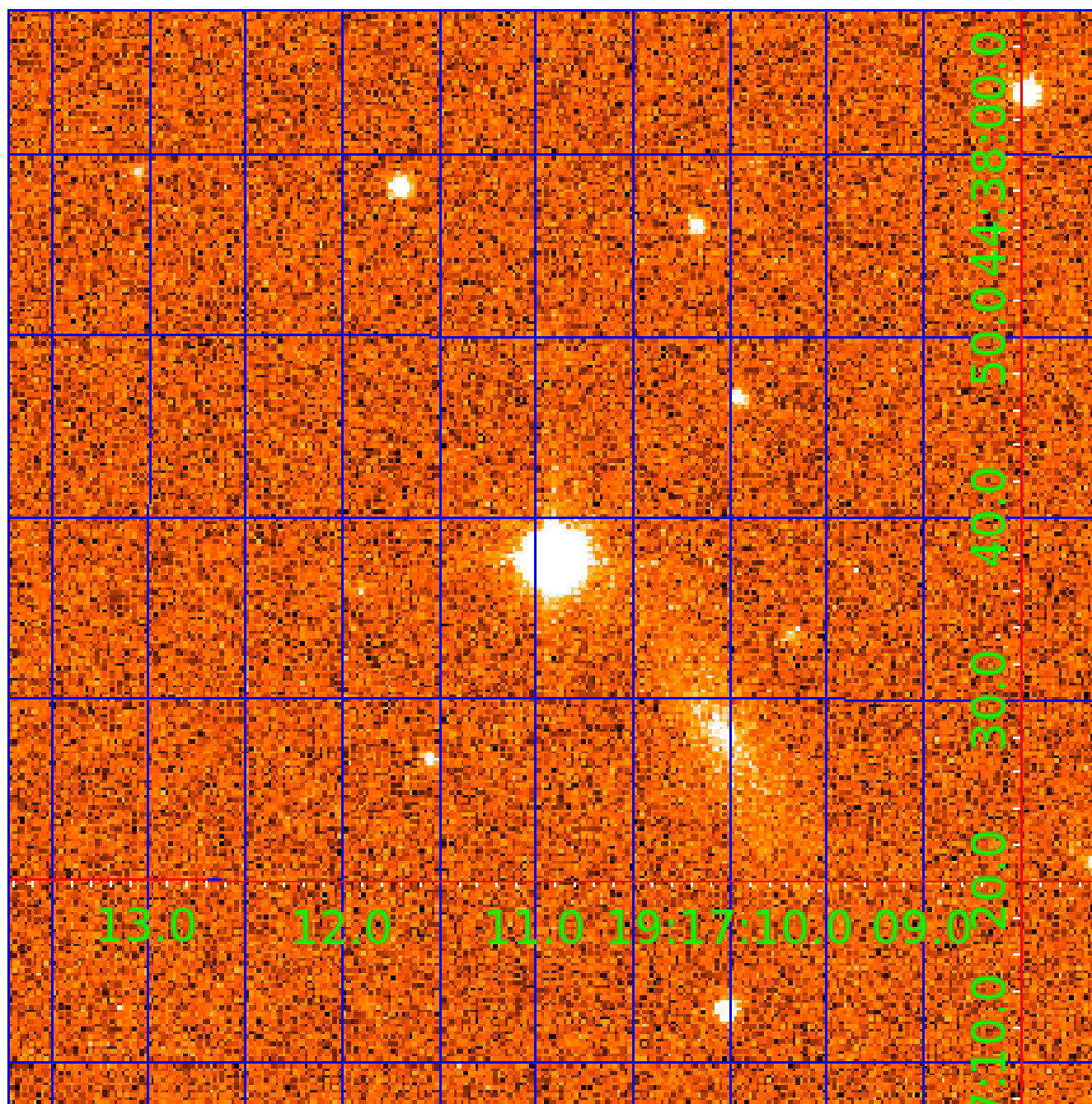


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008553462-01	OBS	No	2.768998	134.441172	0.0	18.950	9.1	0.0	1.84	7296	0.04	4252.50
008553462-02	OBS	No	168.691133	165.172770	602.2	19.886	24.6	22.0	1.84	7296	8.50	17.74
008553462-03	OBS	No	169.273644	193.500394	205.1	21.249	17.4	12.1	1.84	7296	2.77	17.66
008553462-04	OBS	No	215.902359	155.628727	135.2	9.415	10.6	10.0	1.84	7296	2.42	12.77
008553462-05	OBS	No	86.462681	131.957604	195.8	2.322	9.6	9.9	1.84	7296	2.98	43.25
008553462-06	OBS	No	15.001439	132.186756	73.2	5.330	8.7	10.2	1.84	7296	1.80	446.92
008553462-07	OBS	No	265.683201	389.849295	210.2	64.946	9.4	9.8	1.84	7296	2.93	9.68
008553462-08	OBS	No	82.624800	210.760893	185.7	2.972	9.0	8.8	1.84	7296	2.94	45.95
008553462-09	OBS	No	143.910724	263.113872	178.3	4.800	8.7	8.3	1.84	7296	2.86	21.93
008553462-10	OBS	No	42.186045	144.620372	281.0	1.500	9.1	-1.0	1.84	7296	3.14	112.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553462-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008553462-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

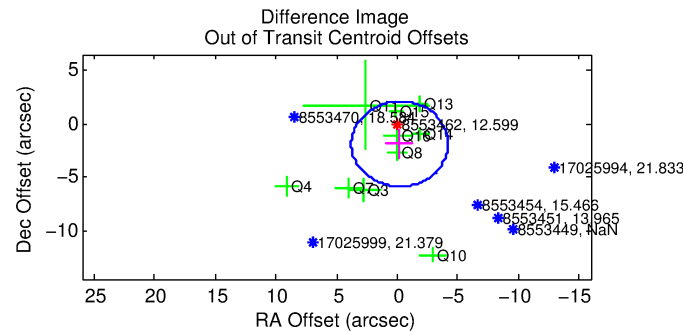
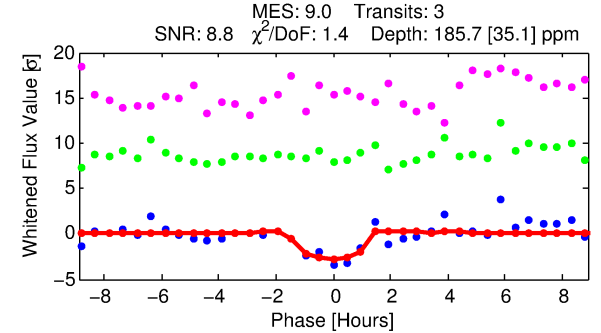
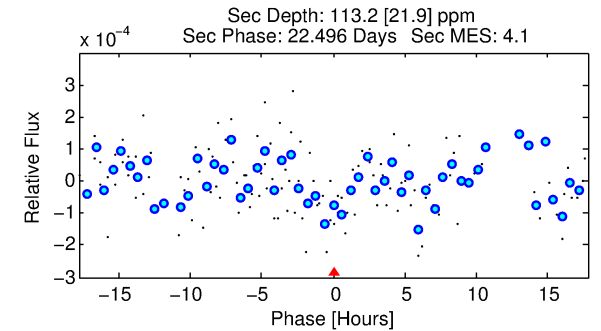
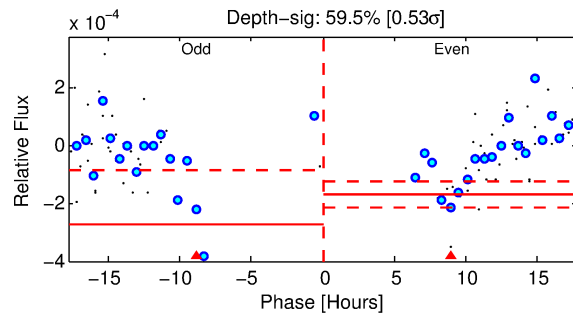
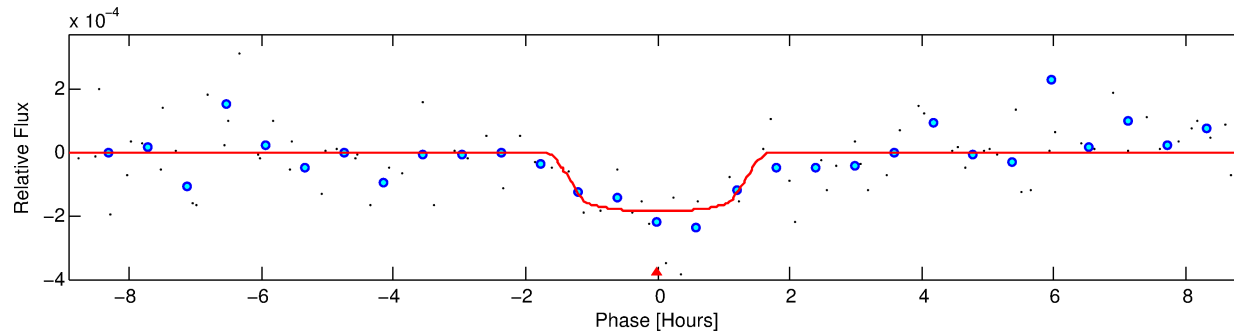
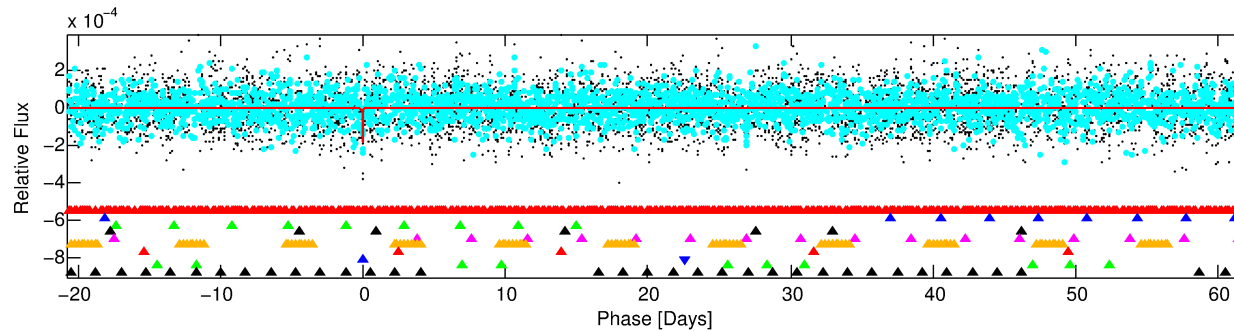
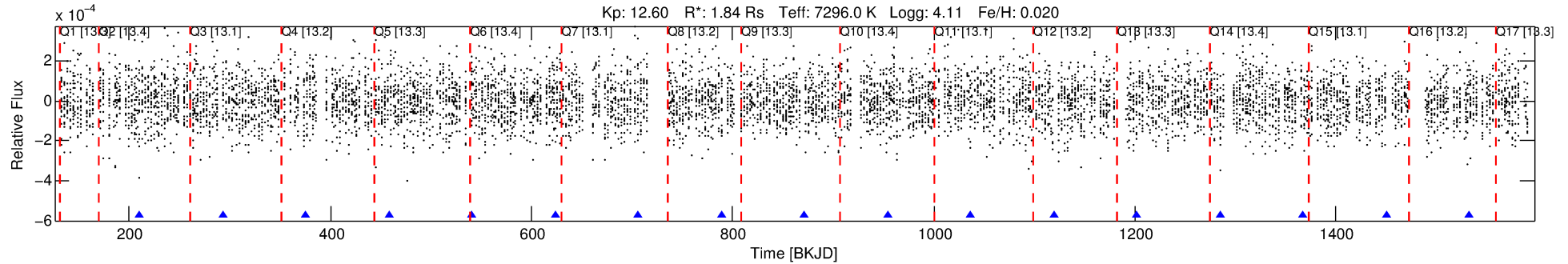
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-08

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 8 of 10 Period: 82.625 d



DV Fit Results:

Period = 82.62480 [0.00150] d
Epoch = 210.7609 [0.0157] BKJD
Rp/R* = 0.0146 [0.0094]
a/R* = 94.47 [382.98]
b = 0.91 [0.75]
Seff = 45.95 [17.96]
Teq = 664 [65] K
Rp = 2.94 [2.09] Re
a = 0.4335 [0.1071] AU
Ag = 1354.15 [1826.66] [0.74 σ]
Teffp = 6227 [2046] K [2.72 σ]

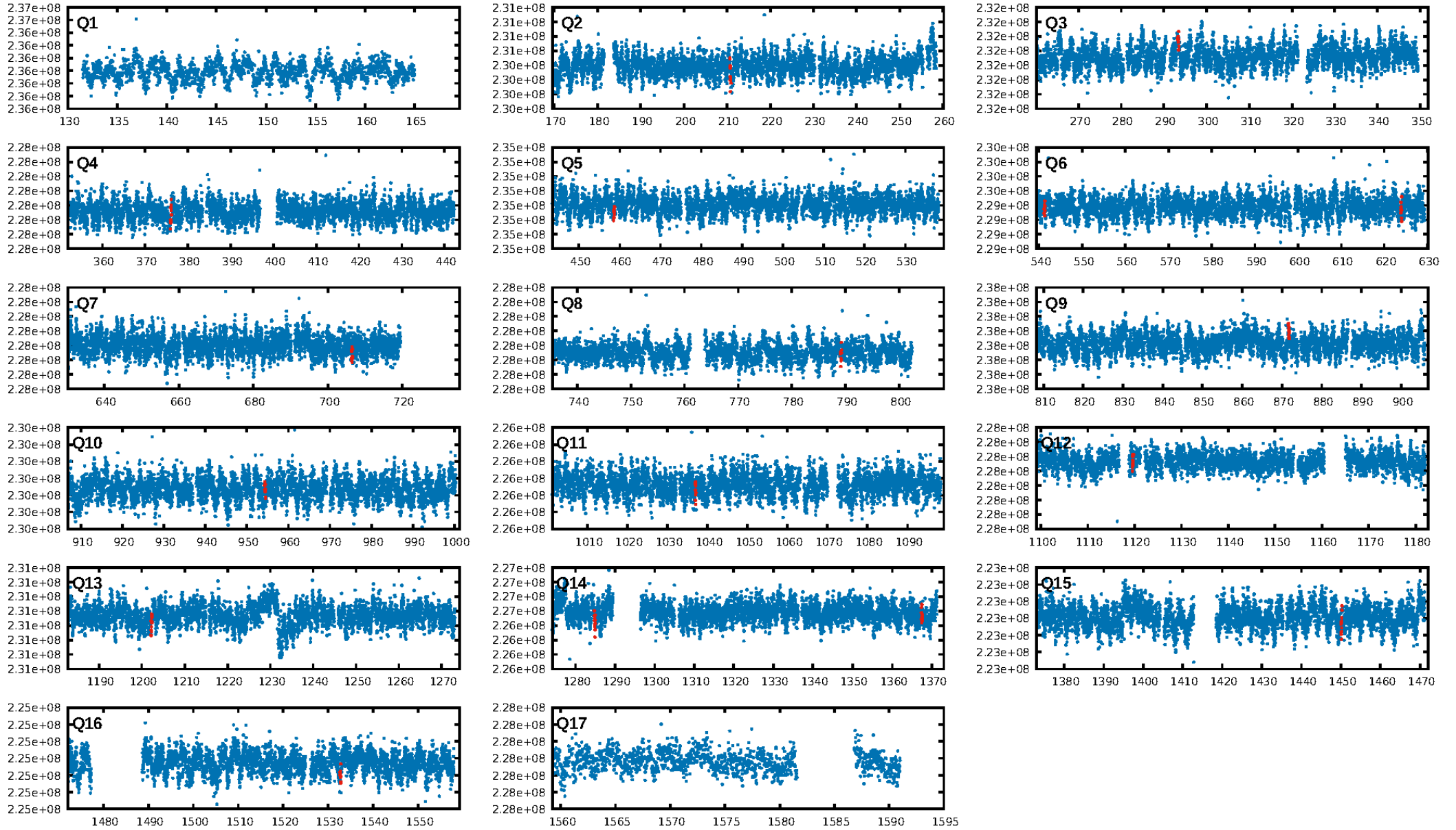
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [291.54 σ]
LongPeriod-sig: 100.0% [24.42 σ]
ModelChiSquare2-sig: 58.9%
ModelChiSquareGof-sig: 98.0%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: 1.529
Centroid-sig: 78.6%
Centroid-so: 0.172 arcsec [0.22 σ]
OotOffset-rm: 1.891 arcsec [1.42 σ]
KicOffset-rm: 1.909 arcsec [1.46 σ]
OotOffset-st: 2/4/3/1 [10]
KicOffset-st: 2/4/3/1 [10]
DiffImageQuality-fgm: 0.40 [4/10]
DiffImageOverlap-fno: 0.47 [7/15]

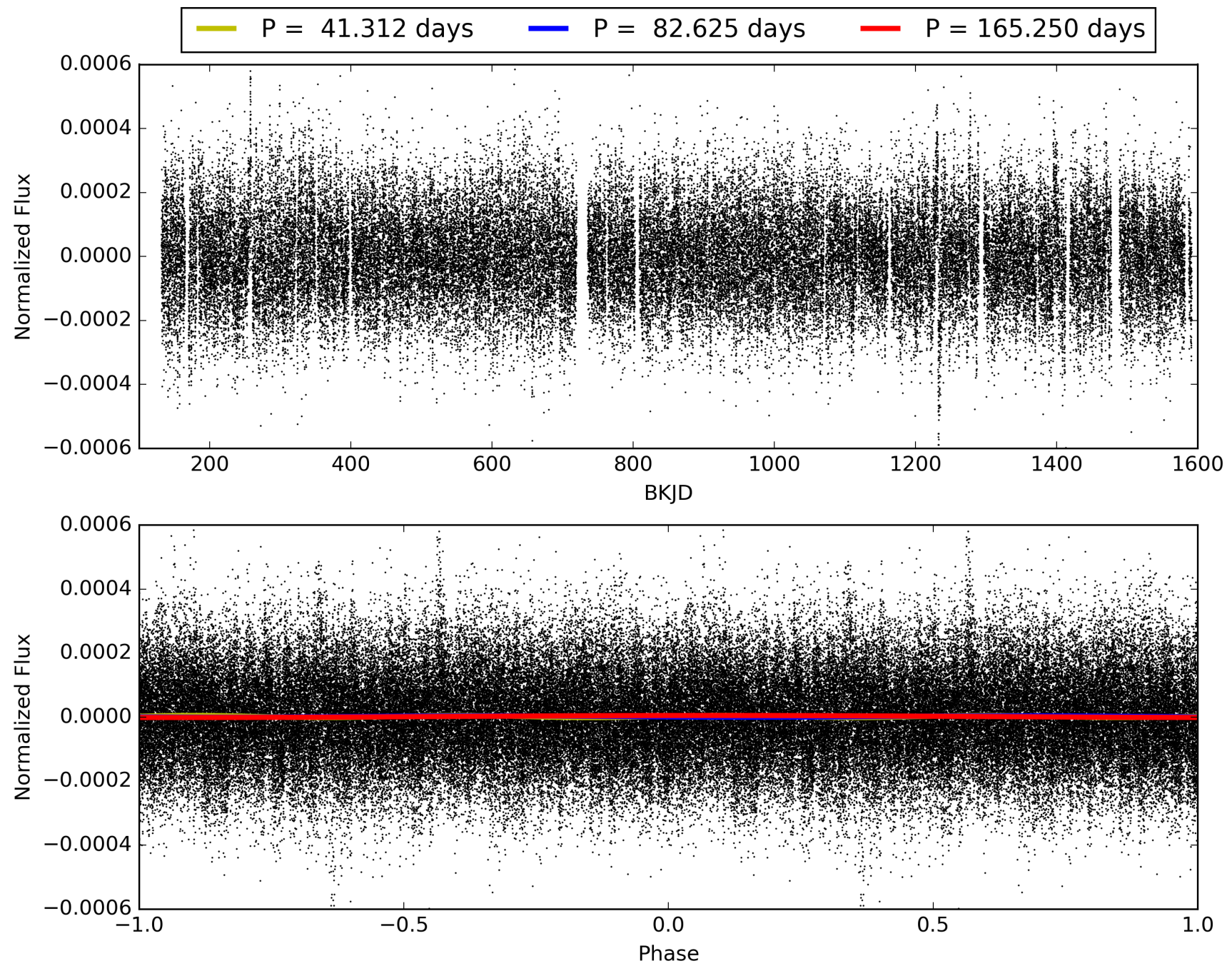
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:18:33 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008553462-08, PDC Light Curves

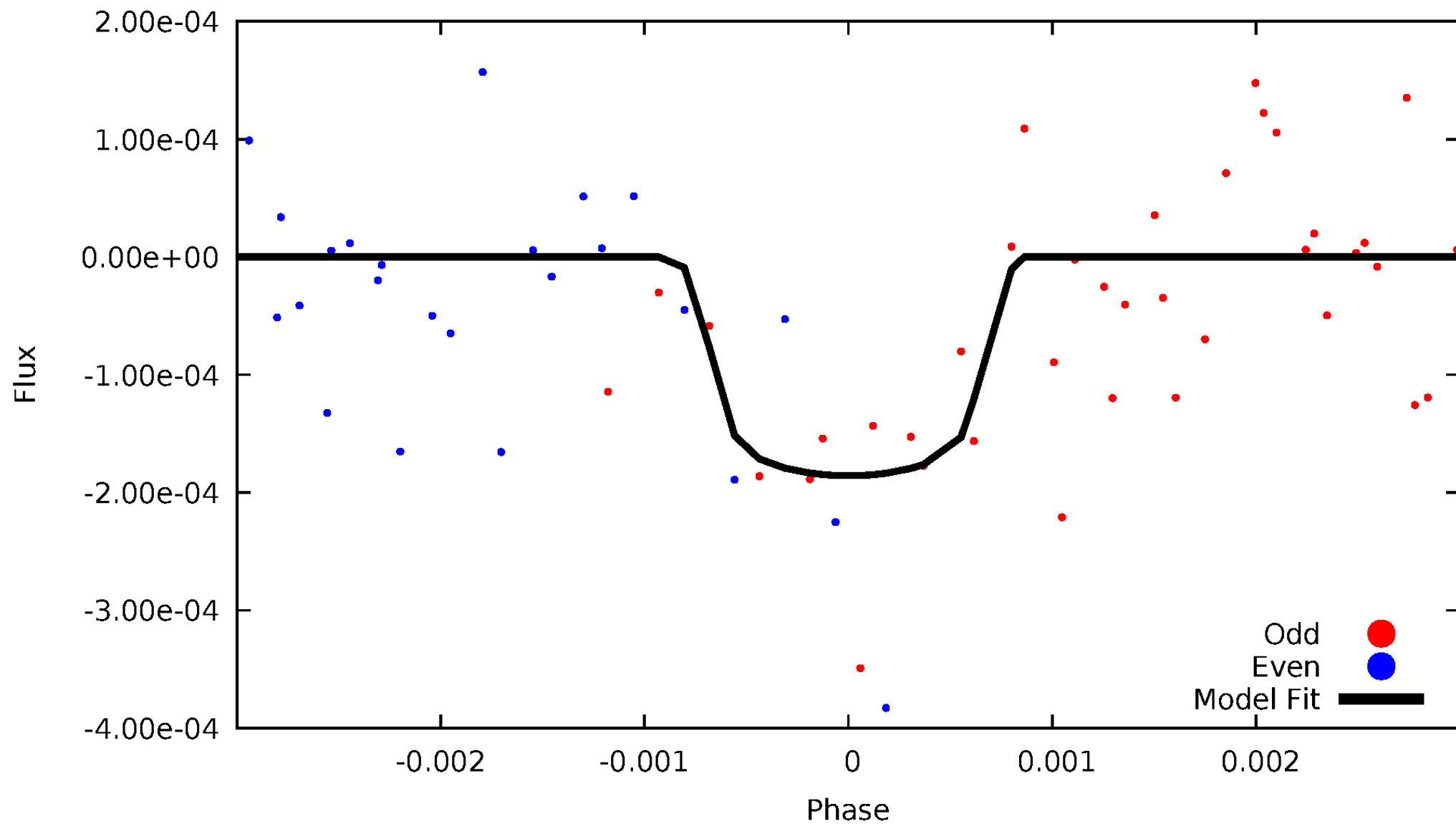


TCE 008553462-08



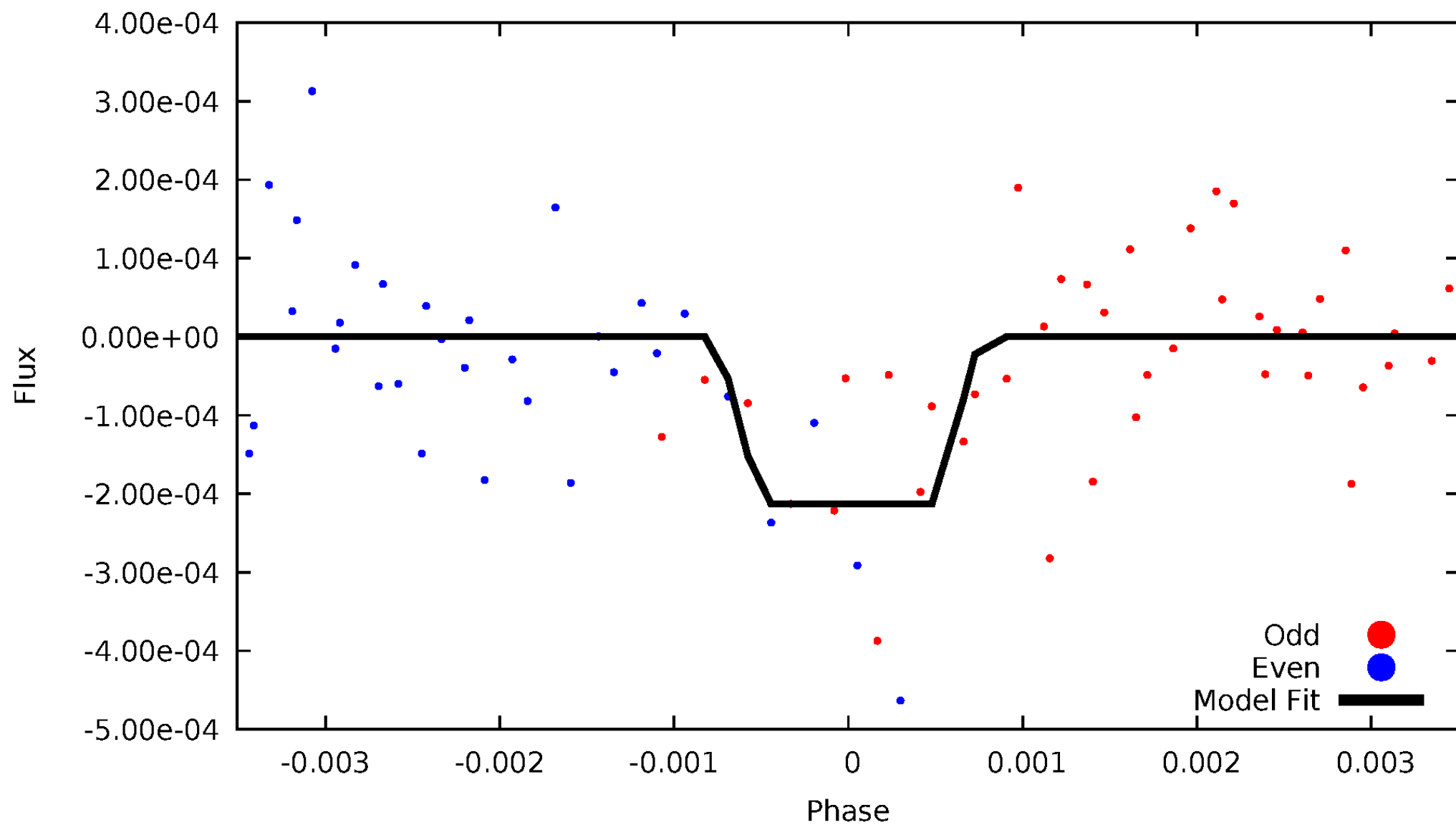
DV Odd/Even

TCE 008553462-08



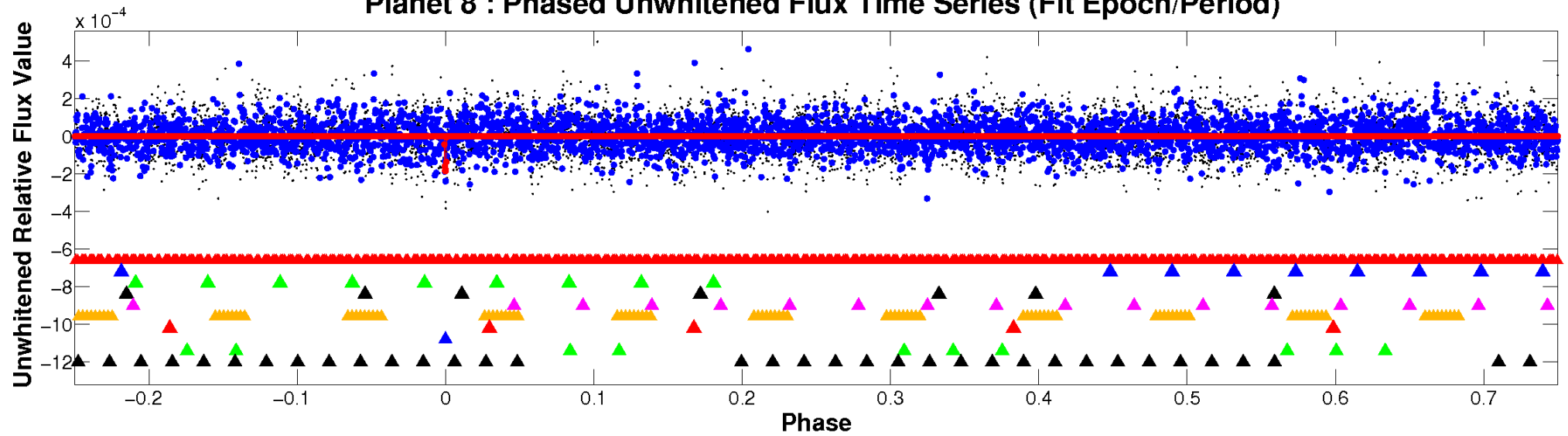
ALT Odd/Even

TCE 008553462-08

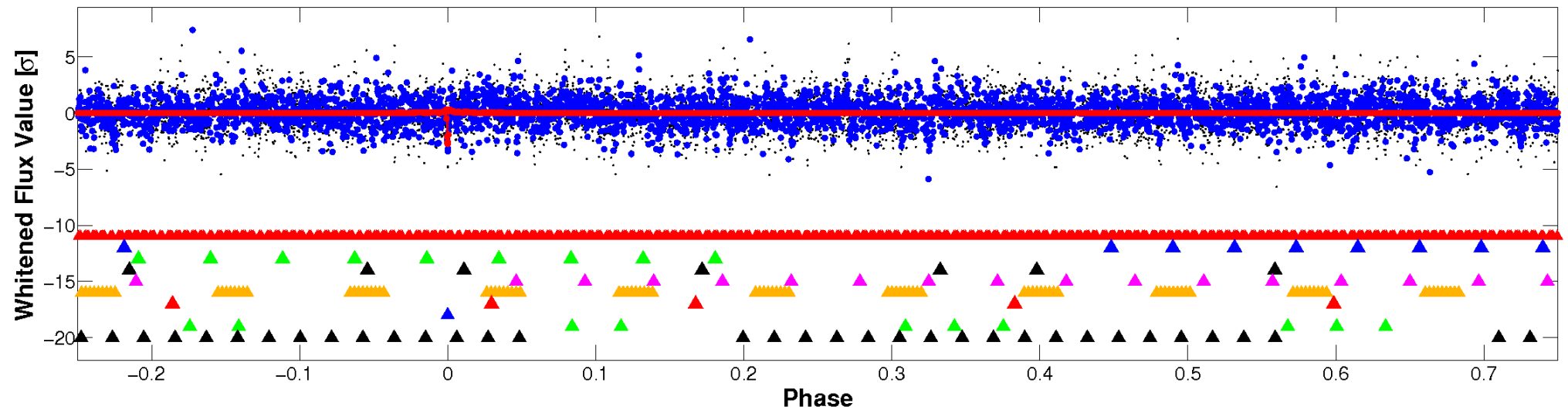


Non-Whitened Vs. Whitened Light Curve

Planet 8 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

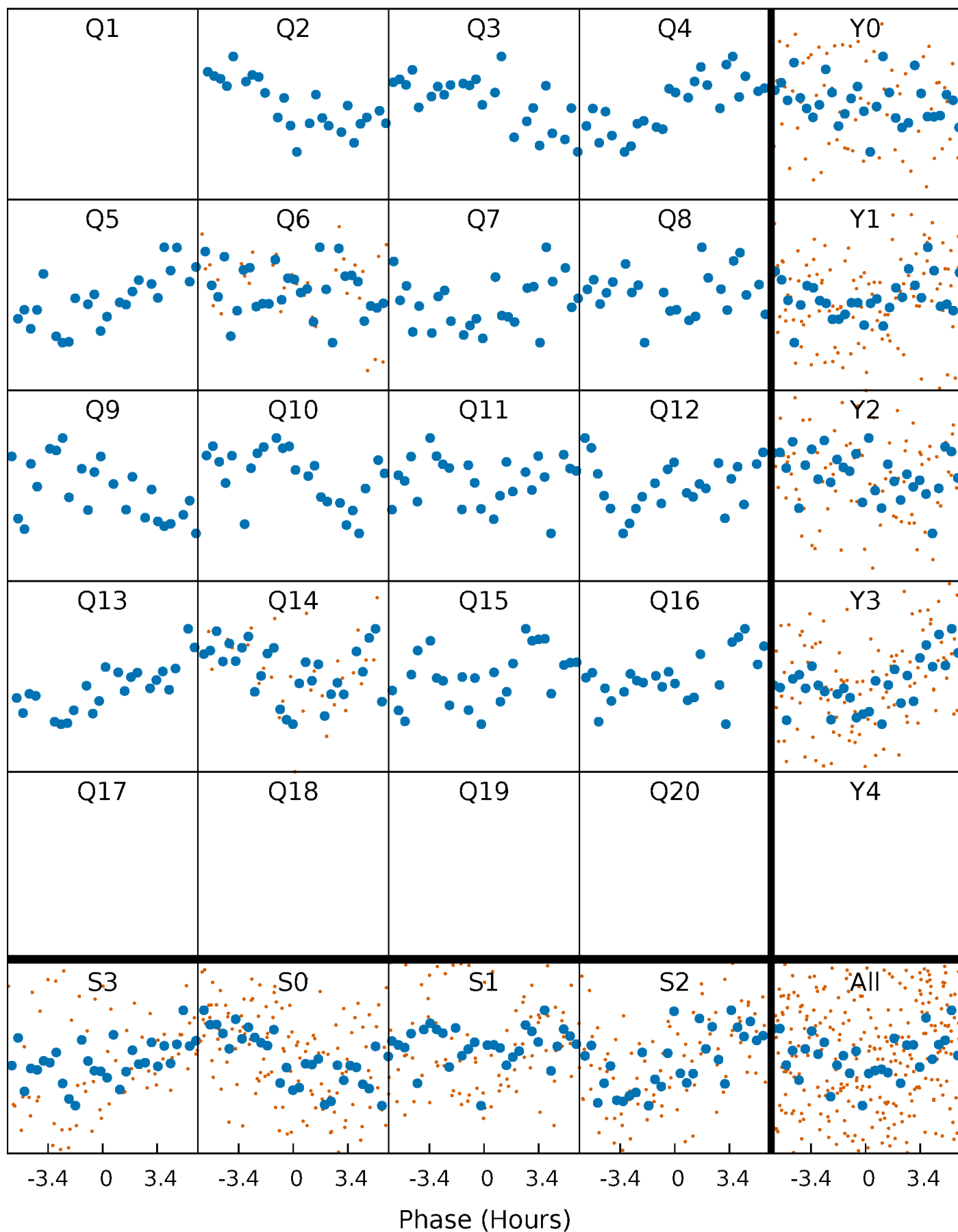


Planet 8 : Phased Whitened Flux Time Series (Fit Epoch/Period)



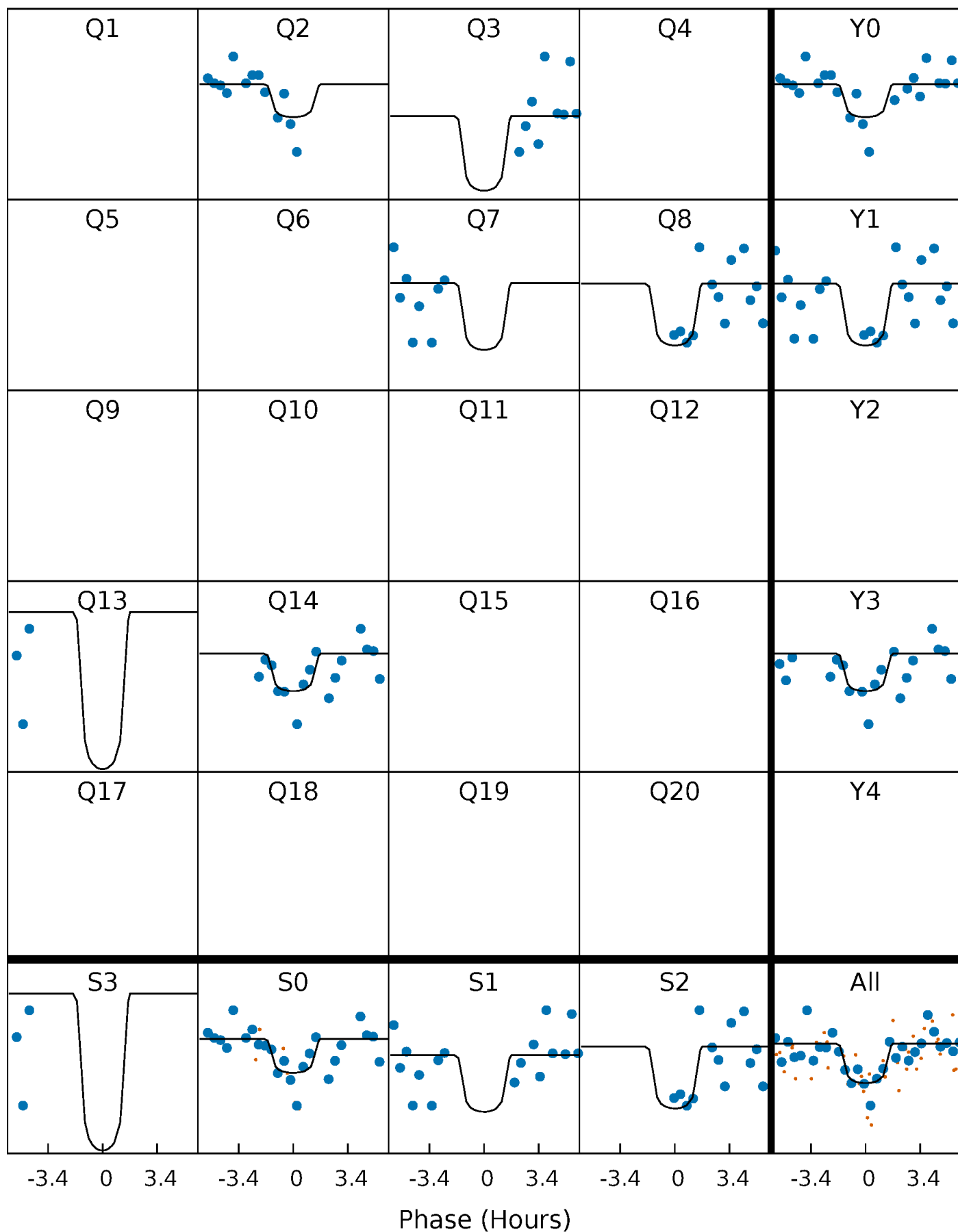
PDC Quarter-Phased Transit Curves

TCE 008553462-08 P= 82.624800 Days $T_0=210.760893$ (BKJD)



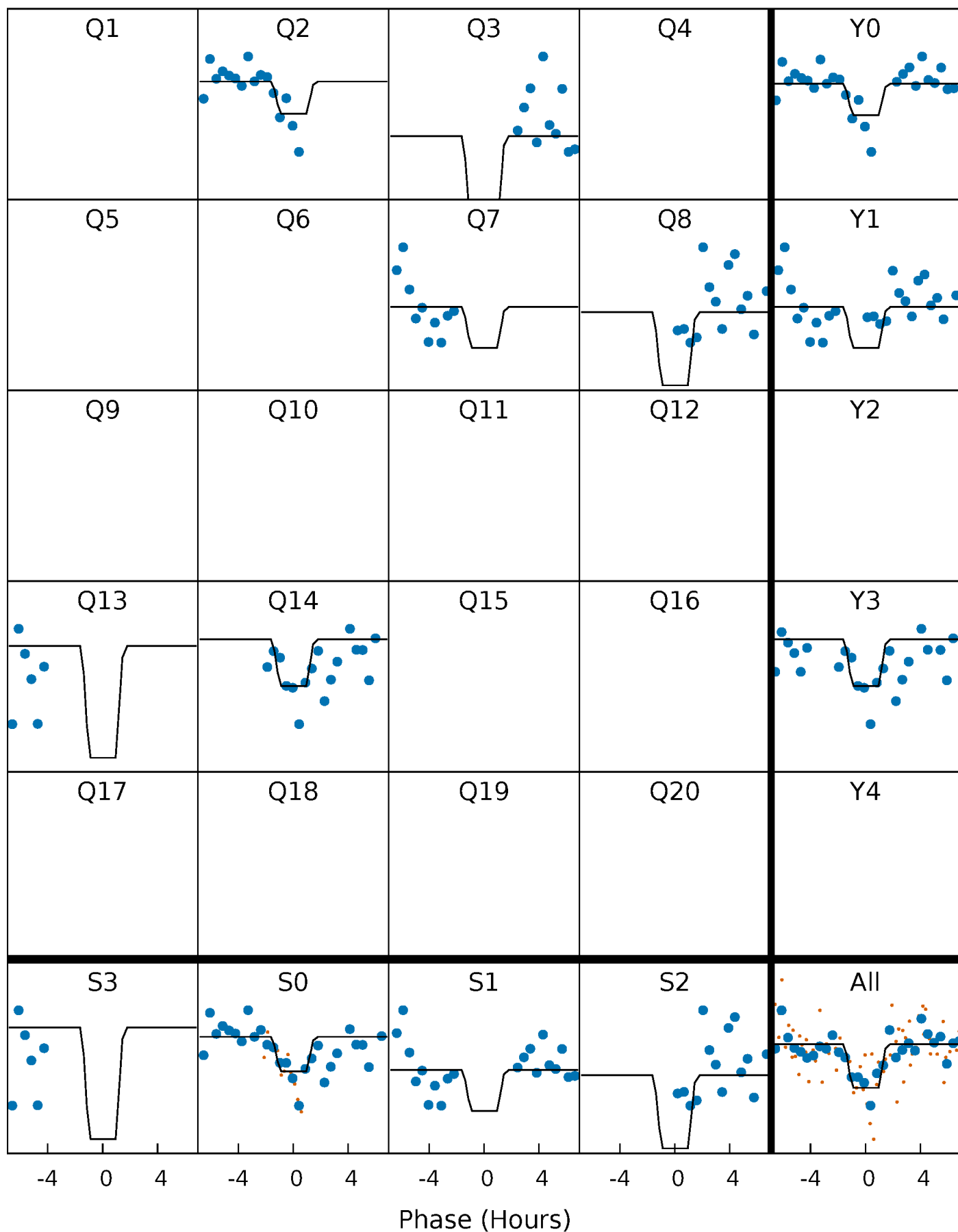
DV Quarter-Phased Transit Curves

TCE 008553462-08 P= 82.624800 Days $T_0=210.760893$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

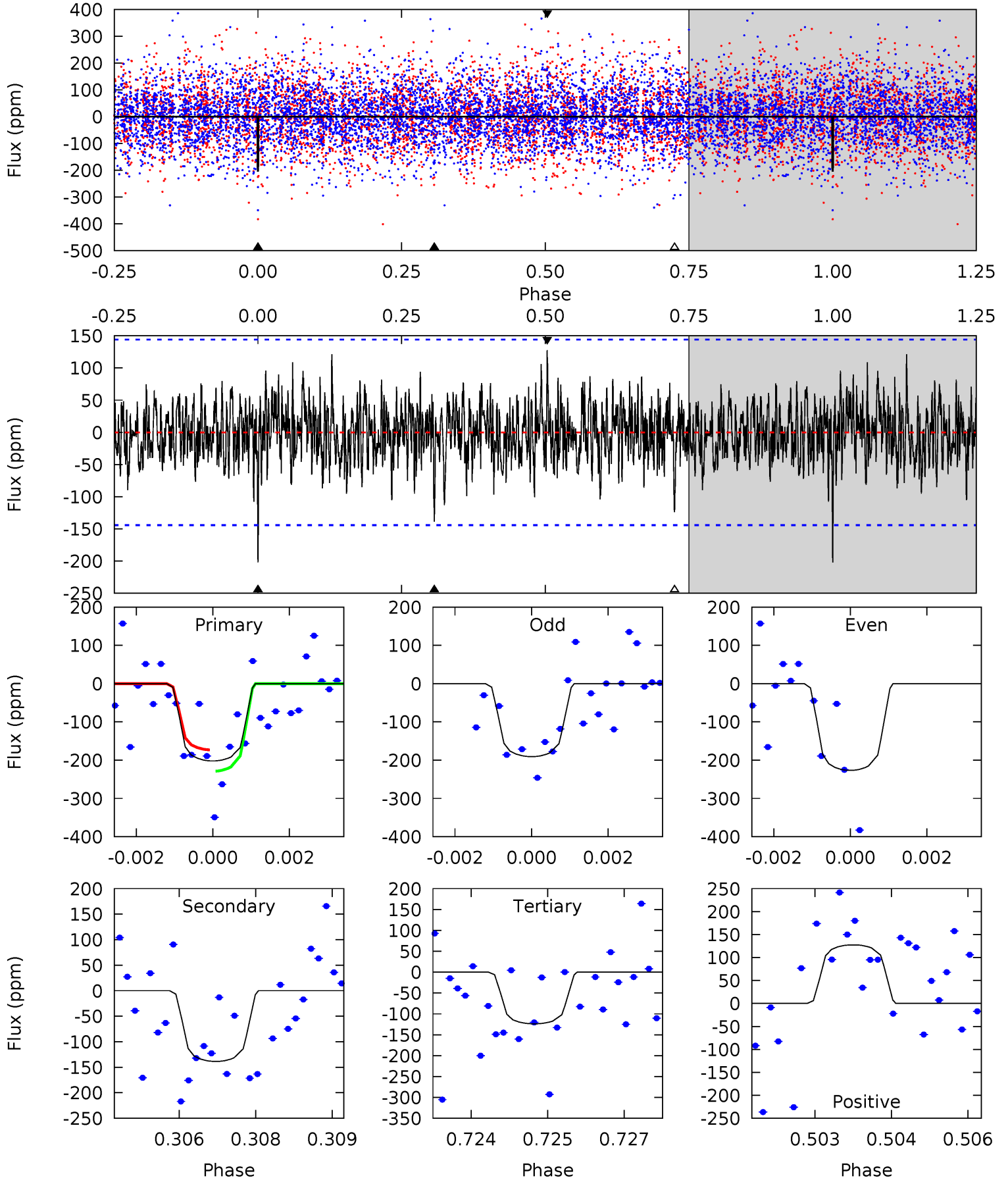
TCE 008553462-08 P= 82.624846 Days $T_0=210.751438$ (BKJD)



DV Model-Shift Uniqueness Test

008553462-08, P = 82.624800 Days, E = 128.136093 Days

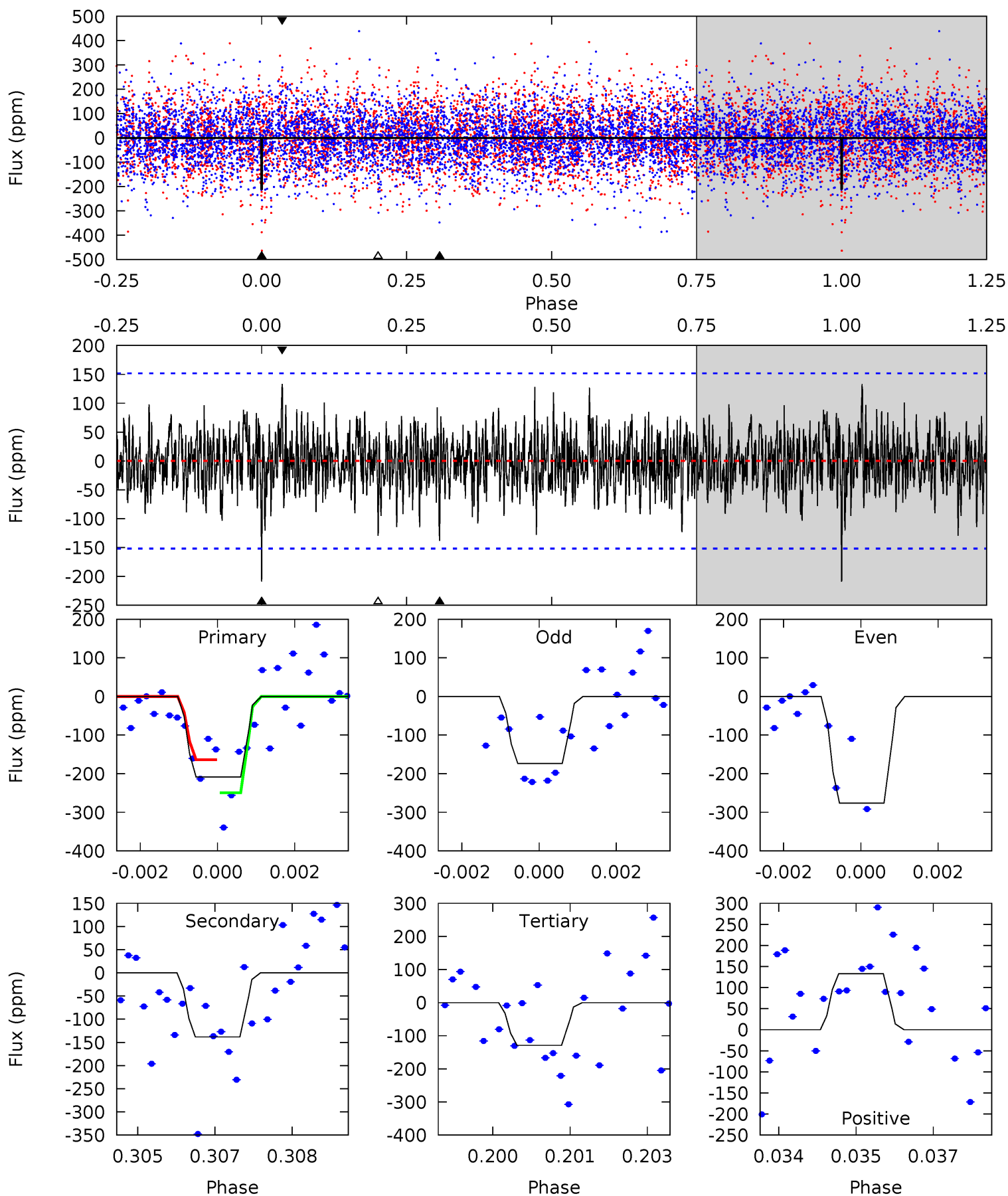
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.52	5.16	4.61	4.75	5.37	3.17	1.33	2.91	2.77	0.55	0.41	0.60	0.98	0.39	1.03



Alt Model-Shift Uniqueness Test

008553462-08, P = 82.624846 Days, E = 128.126592 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.39	4.89	4.57	4.71	5.37	3.16	1.37	2.82	2.68	0.32	0.18	1.77	0.80	0.39	1.50



Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-08 / KOI

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-138 ± 27	$2.98^{+2.06}_{-1.66}$	929^{+74}_{-62}	6439^{+4069}_{-1387}	1616^{+5887}_{-1055}
Alt.	-138 ± 28	$3.15^{+1.88}_{-1.73}$	928^{+70}_{-64}	6231^{+3475}_{-1235}	1451^{+5055}_{-907}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

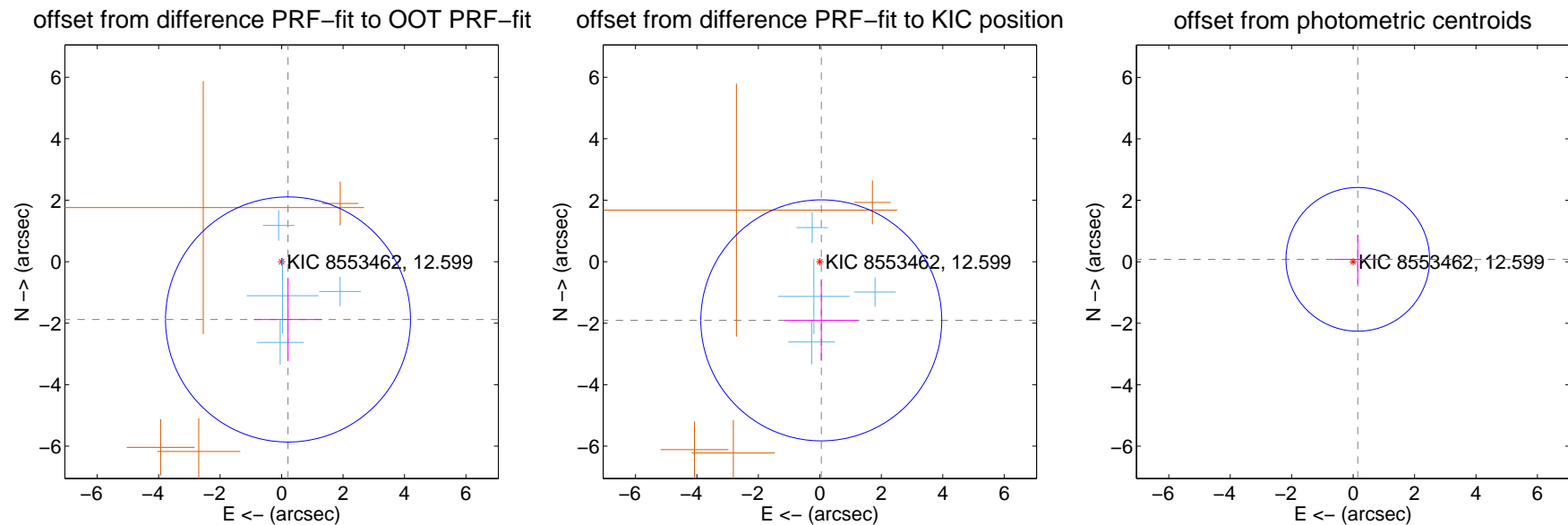
DV Centroid Data

Supplemental centroid analysis for 008553462-08. Kepler magnitude: 12.60. Transit SNR 8.83

There are 4 quarters with good PRF difference image offsets

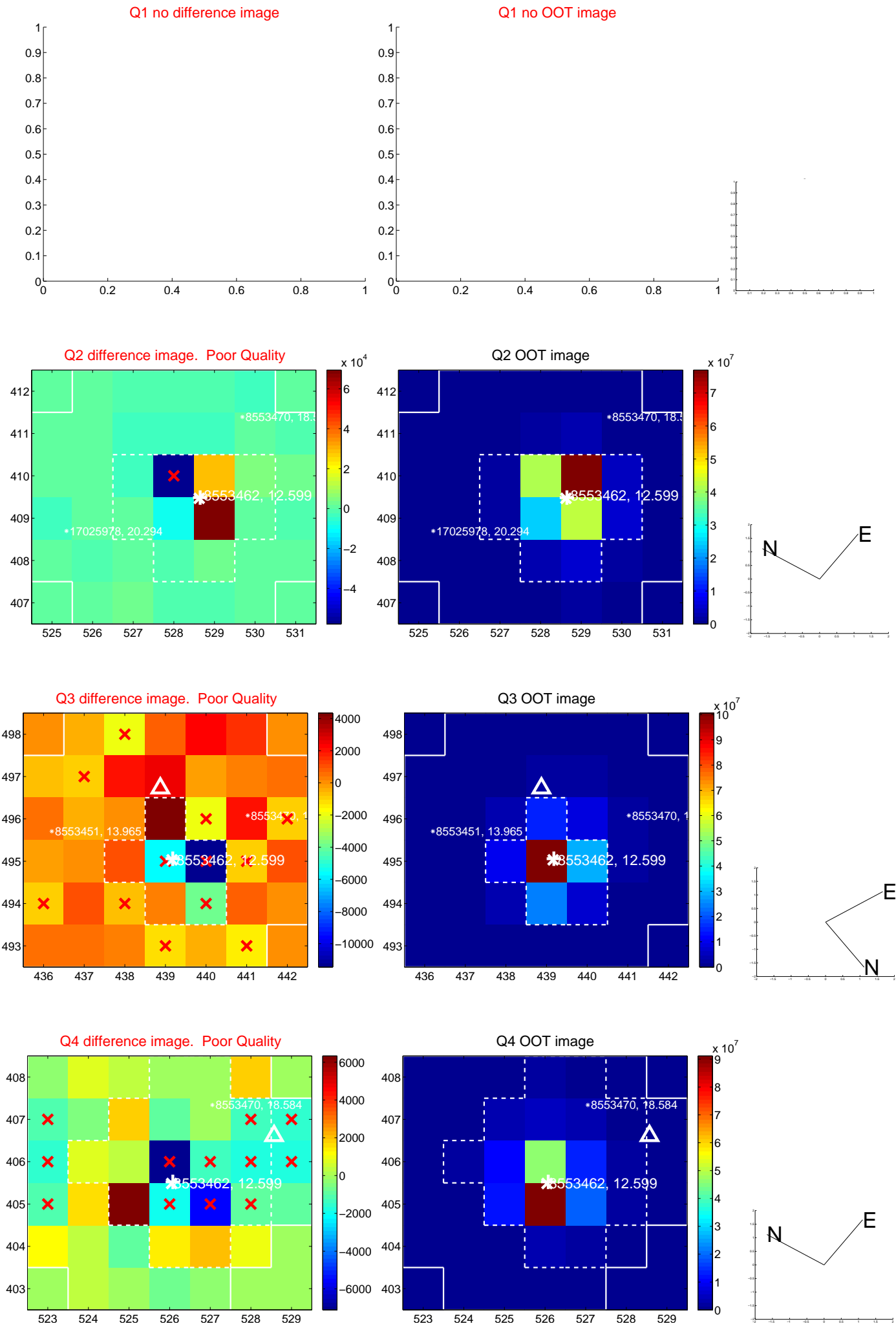
The direct PRF centroid is offset from the target star catalog position by about 0.23 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.891 ± 1.329	1.42	-0.209 ± 1.111	-1.879 ± 1.354
PRF-fit source offset from KIC position	1.909 ± 1.307	1.46	-0.047 ± 1.192	-1.908 ± 1.311
photometric centroid source offset	0.17 ± 0.78	0.22	-0.15 ± 0.77	0.08 ± 0.80

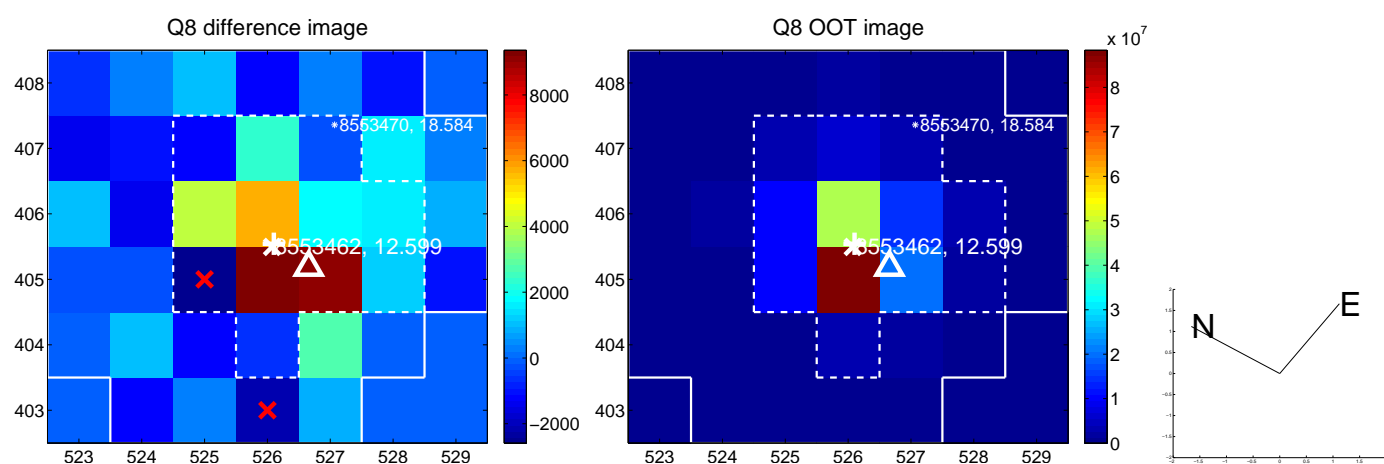
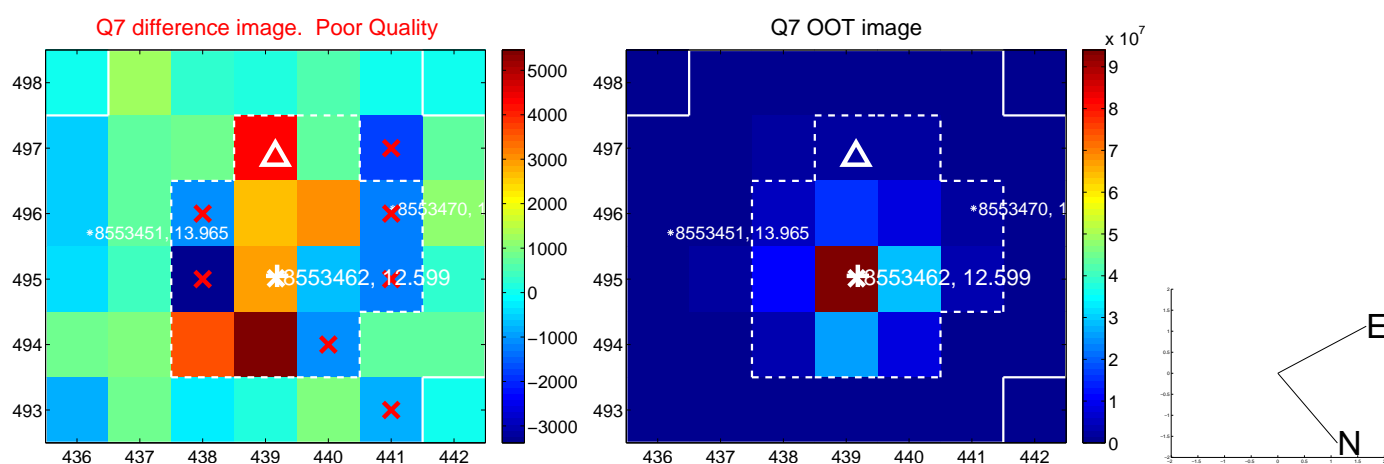
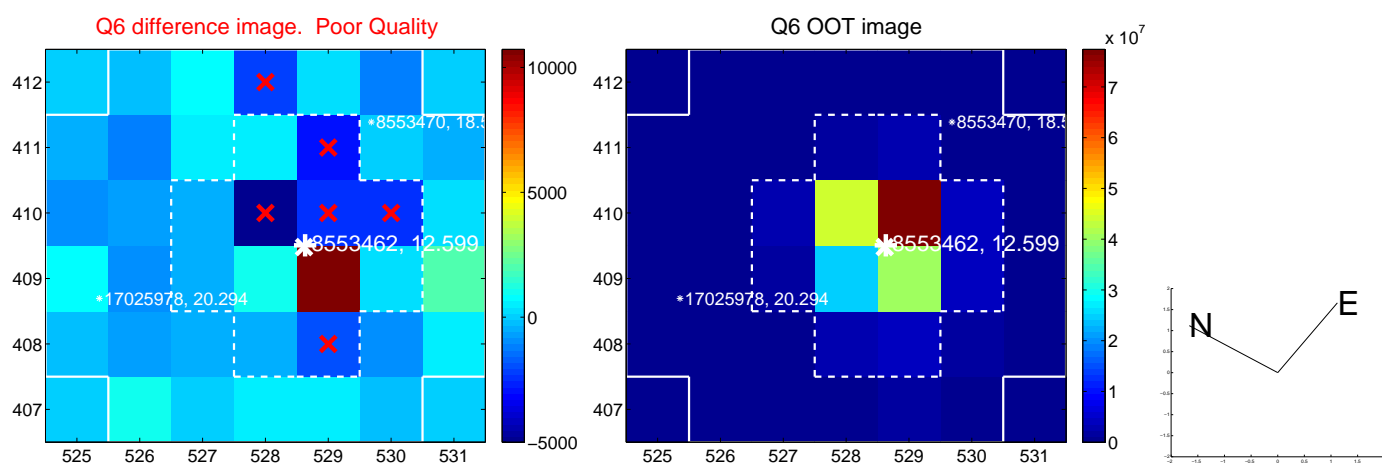
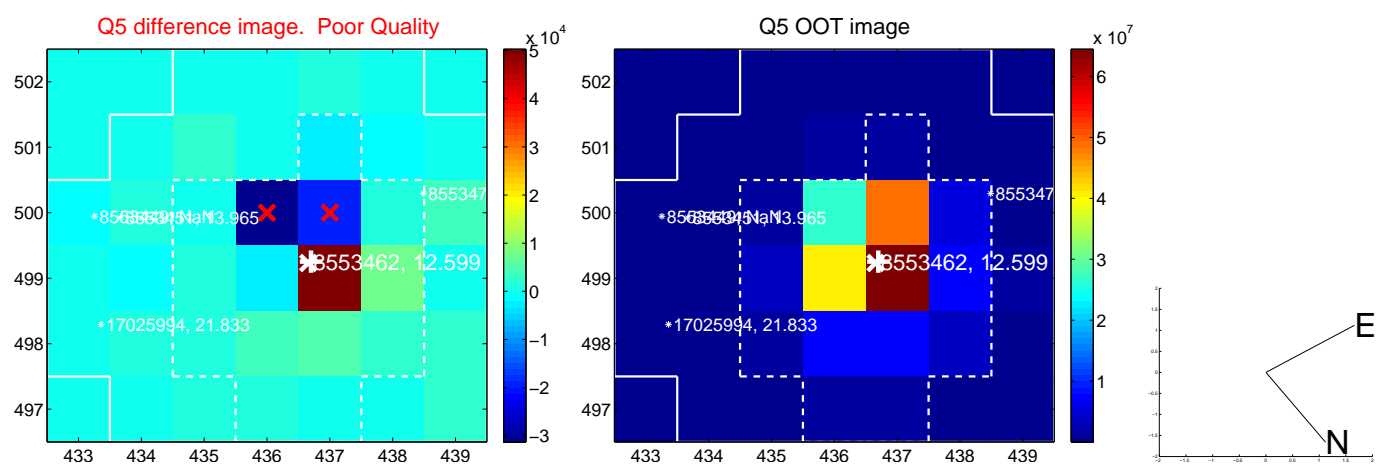


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets**; **Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

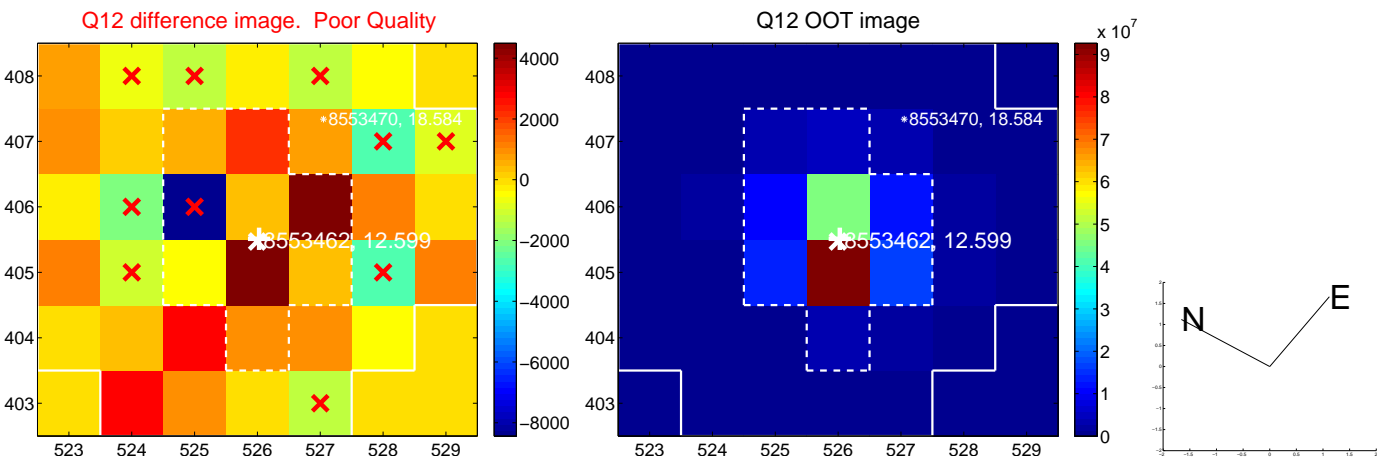
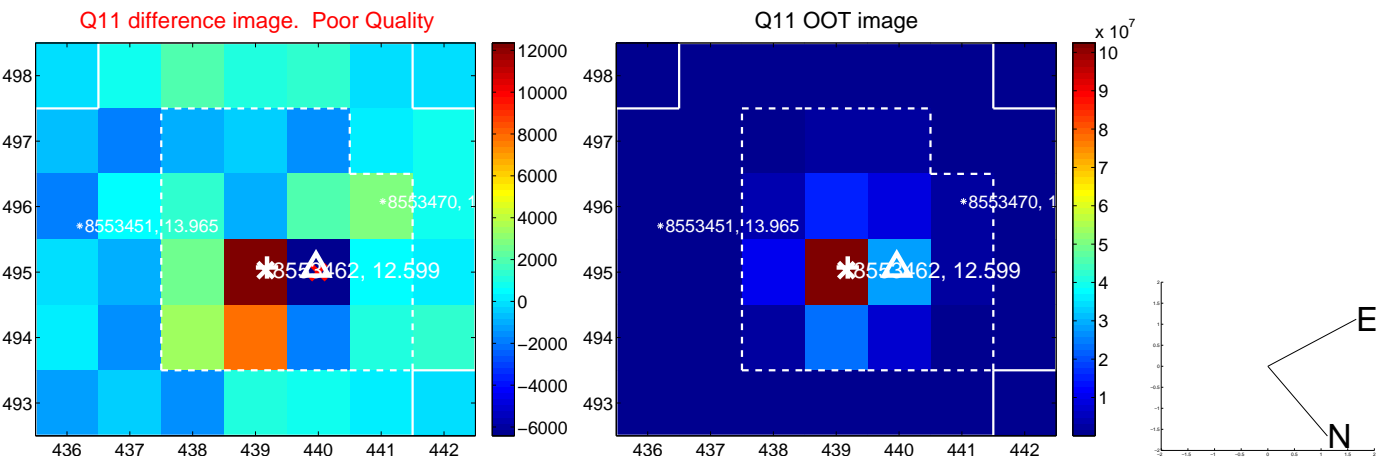
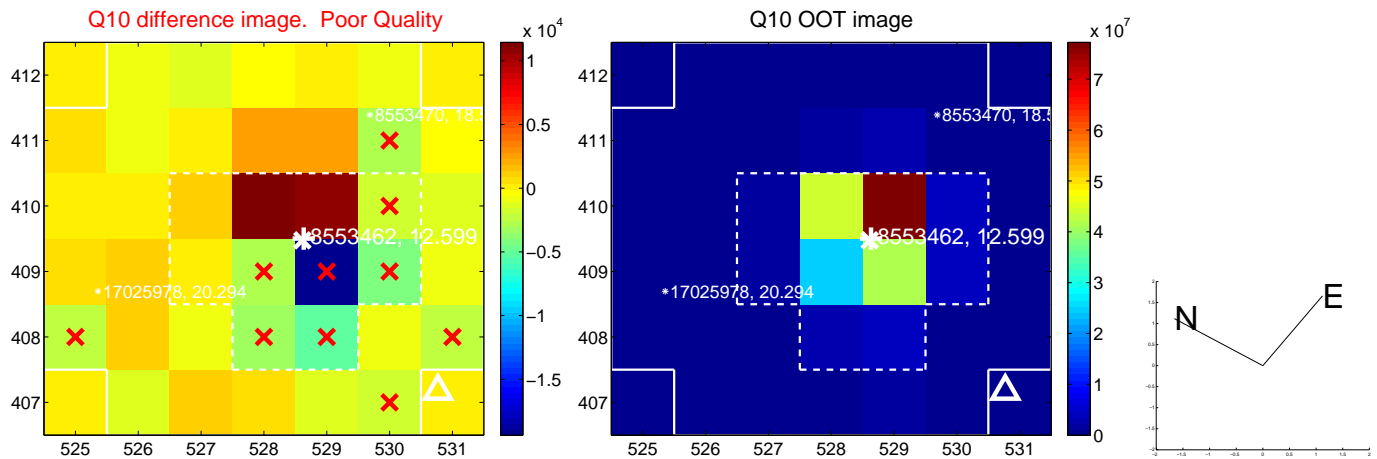
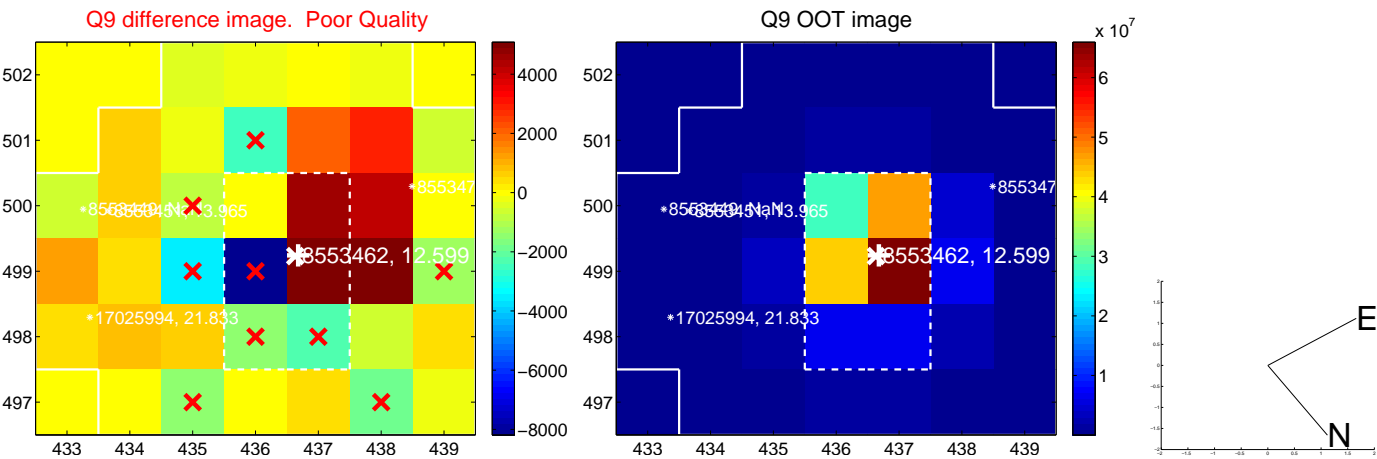
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



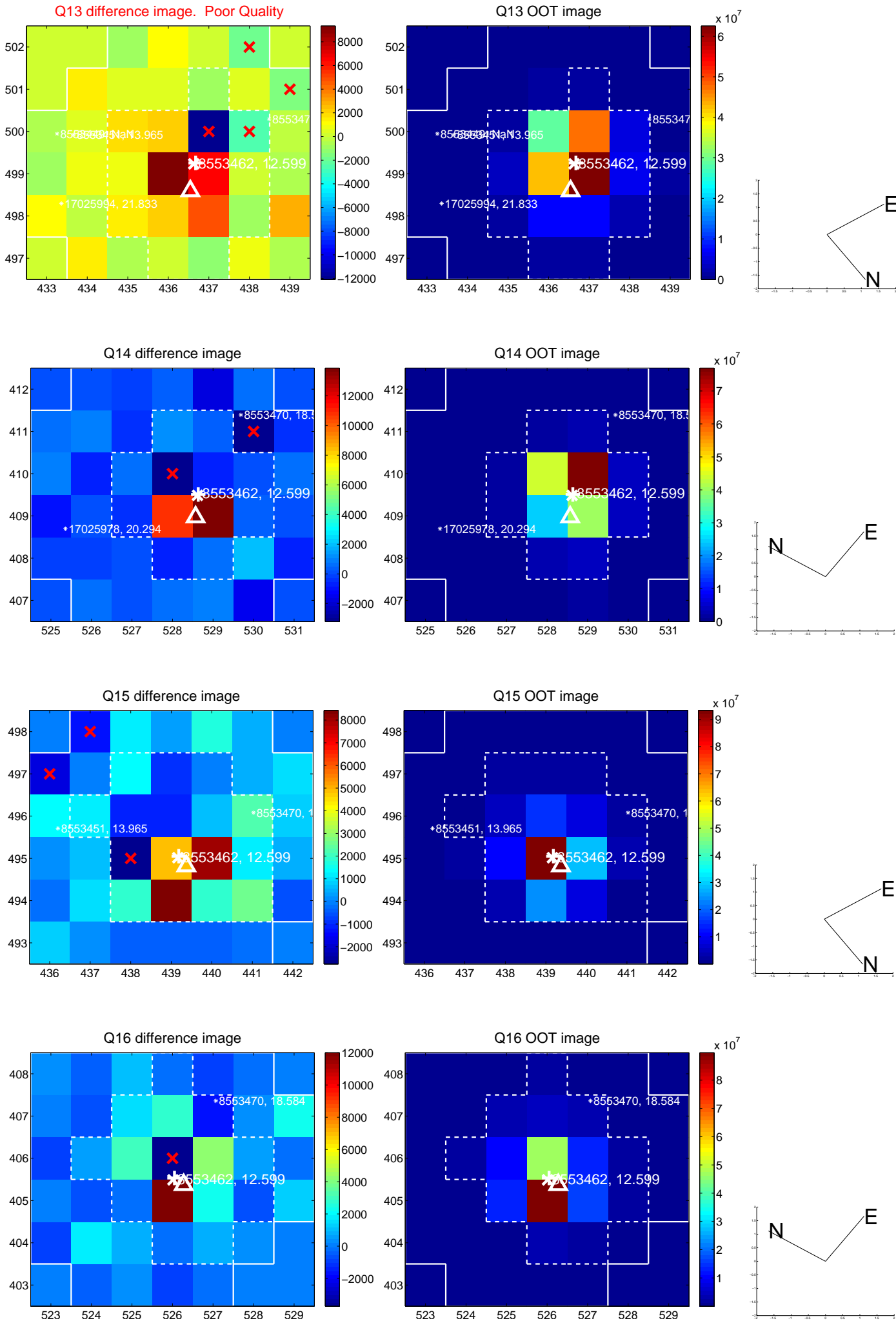
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



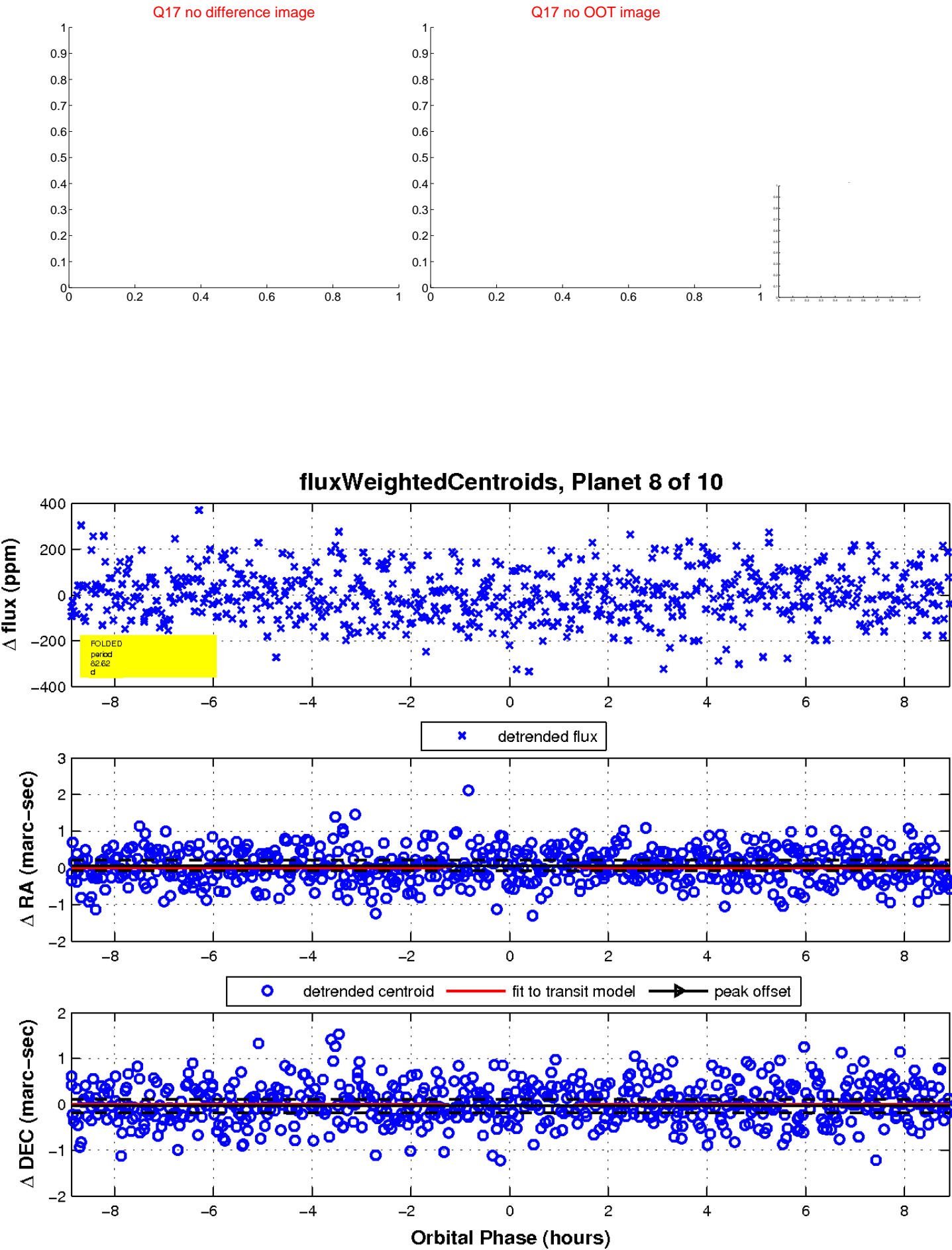
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

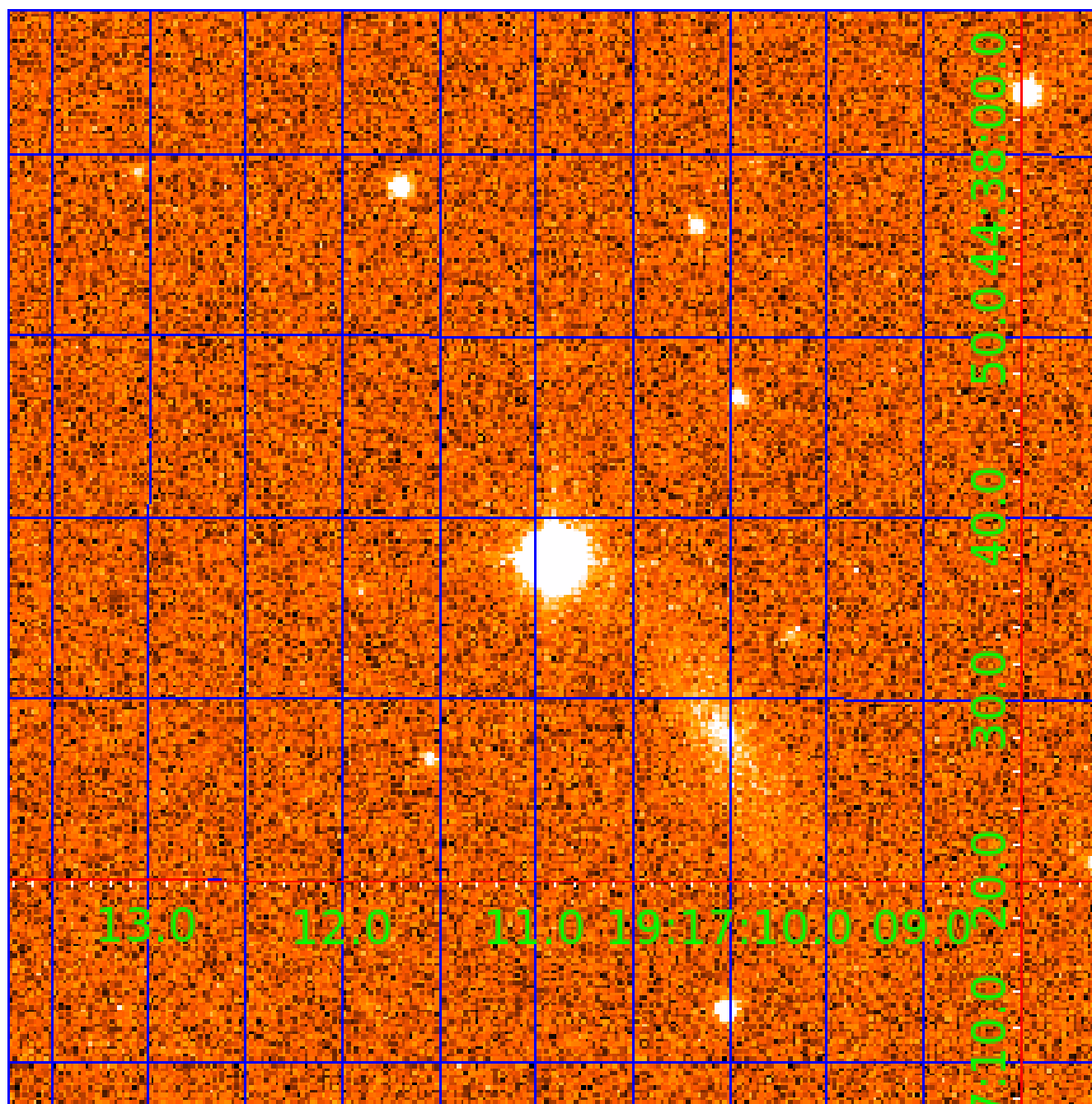


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008553462-01	OBS	No	2.768998	134.441172	0.0	18.950	9.1	0.0	1.84	7296	0.04	4252.50
008553462-02	OBS	No	168.691133	165.172770	602.2	19.886	24.6	22.0	1.84	7296	8.50	17.74
008553462-03	OBS	No	169.273644	193.500394	205.1	21.249	17.4	12.1	1.84	7296	2.77	17.66
008553462-04	OBS	No	215.902359	155.628727	135.2	9.415	10.6	10.0	1.84	7296	2.42	12.77
008553462-05	OBS	No	86.462681	131.957604	195.8	2.322	9.6	9.9	1.84	7296	2.98	43.25
008553462-06	OBS	No	15.001439	132.186756	73.2	5.330	8.7	10.2	1.84	7296	1.80	446.92
008553462-07	OBS	No	265.683201	389.849295	210.2	64.946	9.4	9.8	1.84	7296	2.93	9.68
008553462-08	OBS	No	82.624800	210.760893	185.7	2.972	9.0	8.8	1.84	7296	2.94	45.95
008553462-09	OBS	No	143.910724	263.113872	178.3	4.800	8.7	8.3	1.84	7296	2.86	21.93
008553462-10	OBS	No	42.186045	144.620372	281.0	1.500	9.1	-1.0	1.84	7296	3.14	112.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553462-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008553462-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

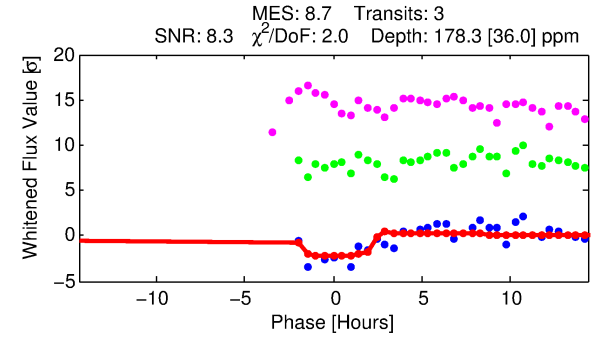
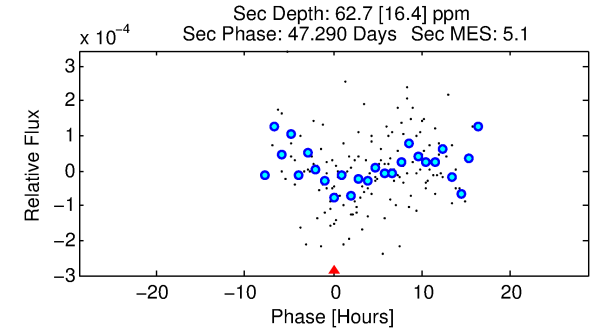
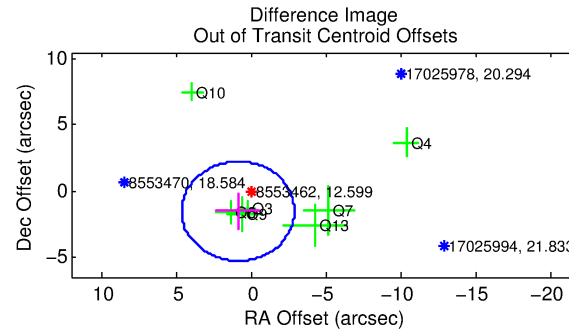
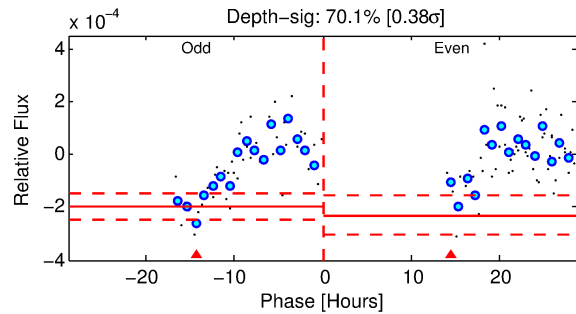
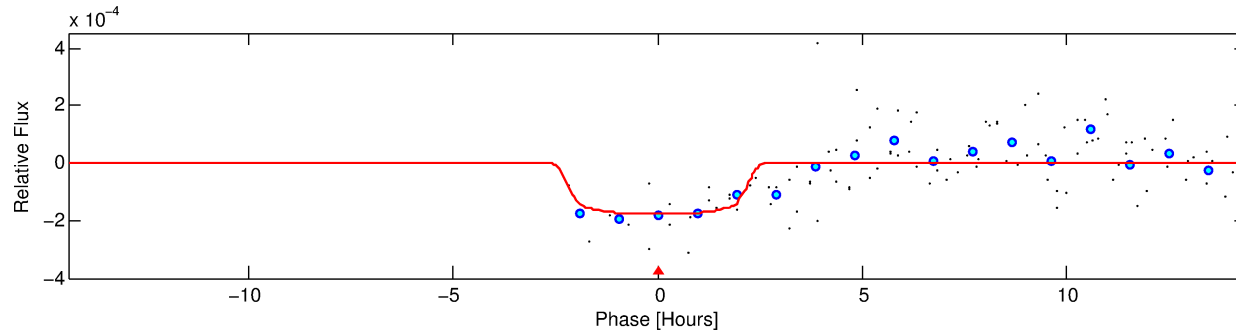
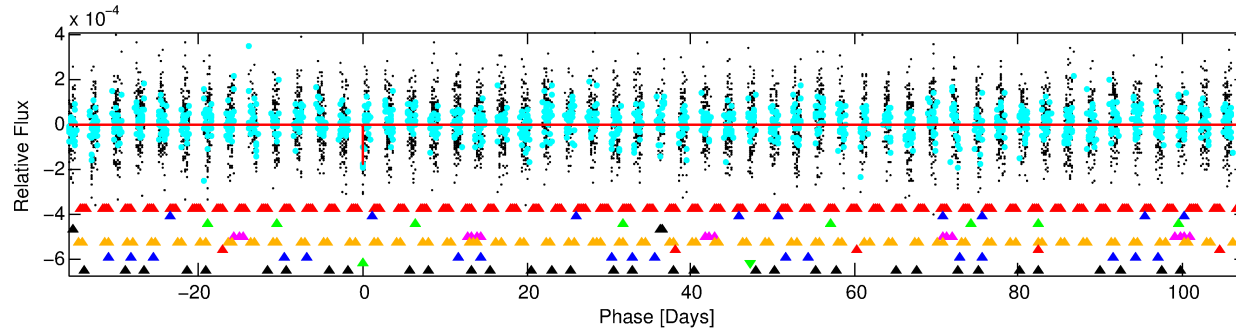
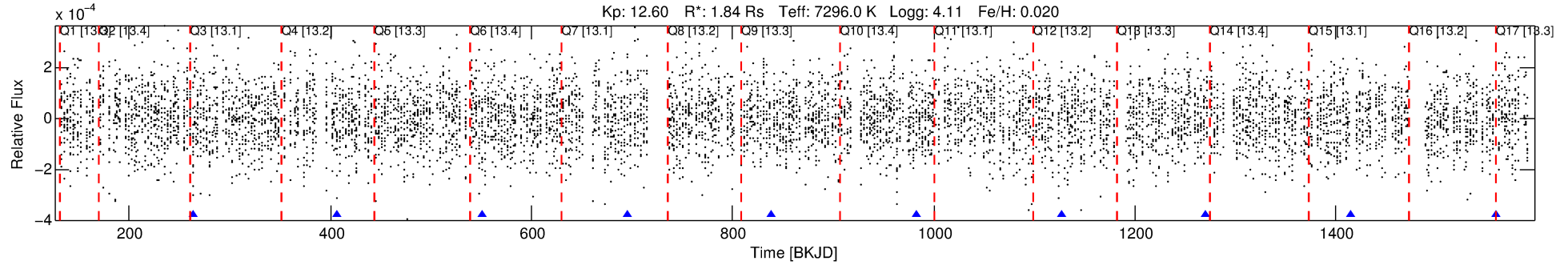
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-09

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 9 of 10 Period: 143.911 d



DV Fit Results:

Period = 143.91072 [0.01178] d
Epoch = 263.1139 [0.0100] BKJD
Rp/R* = 0.0142 [0.0059]
a/R* = 105.71 [265.54]
b = 0.90 [0.52]
Seff = 21.93 [8.57]
Teq = 552 [54] K
Rp = 2.86 [1.47] Re
a = 0.6275 [0.1551] AU
Ag = 1662.90 [1557.55] [1.07 σ]
Teffp = 5448 [1207] K [4.05 σ]

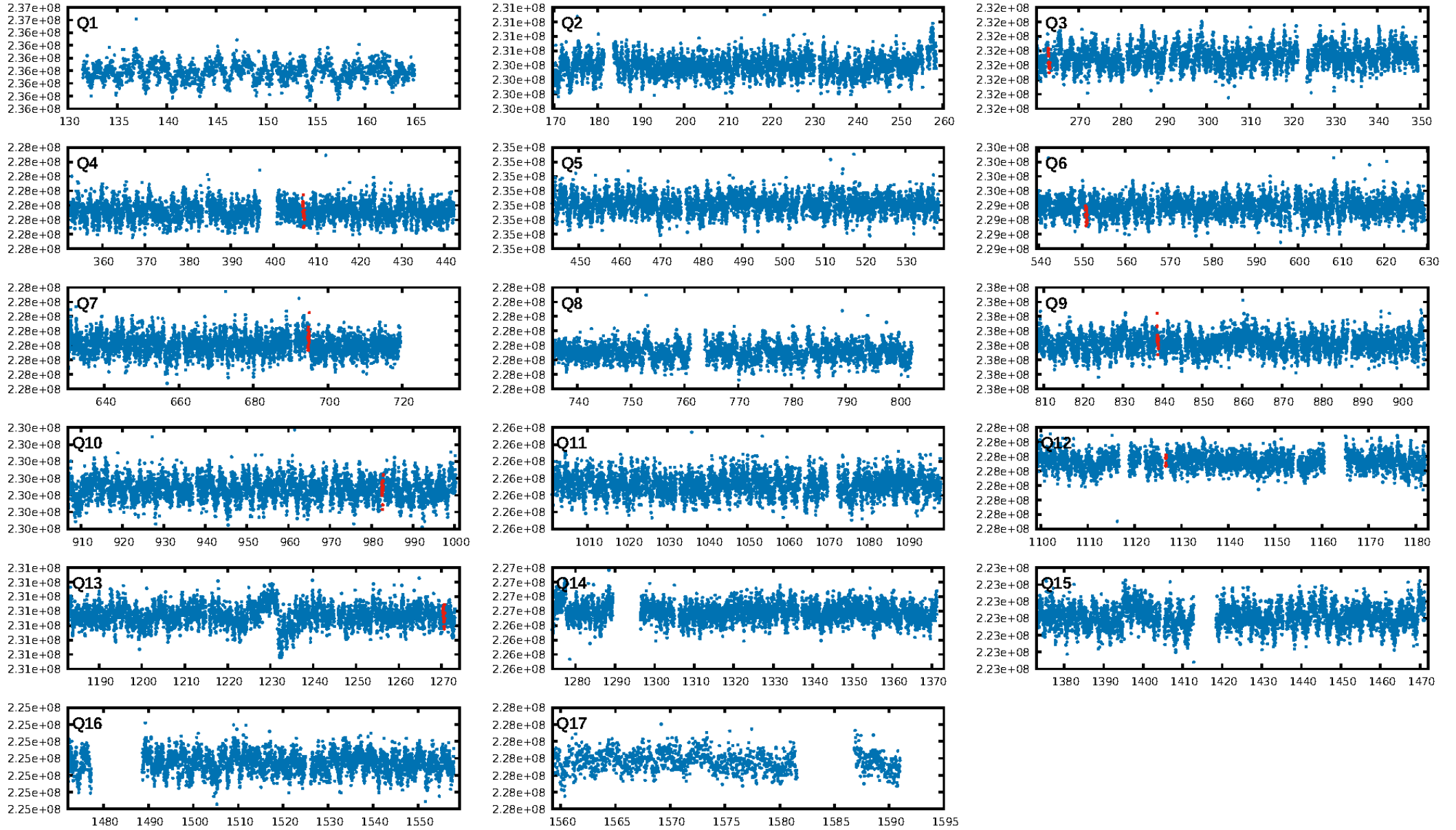
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [258.56 σ]
LongPeriod-sig: 100.0% [29.07 σ]
ModelChiSquare2-sig: 47.9%
ModelChiSquareGof-sig: 99.4%
Bootstrap-pfa: N/A
RollingBand-fgt: 1.00 [3/3]
GhostDiagnostic-chr: -0.2462
Centroid-sig: 12.9%
Centroid-so: 1.065 arcsec [1.11 σ]
OotOffset-rm: 1.745 arcsec [1.39 σ]
OotOffset-st: 2/2/1/2 [7]
KicOffset-rm: 1.833 arcsec [1.32 σ]
KicOffset-st: 2/2/1/2 [7]
DiffImageQuality-fgm: 0.29 [2/7]
DiffImageOverlap-fno: 0.86 [6/7]

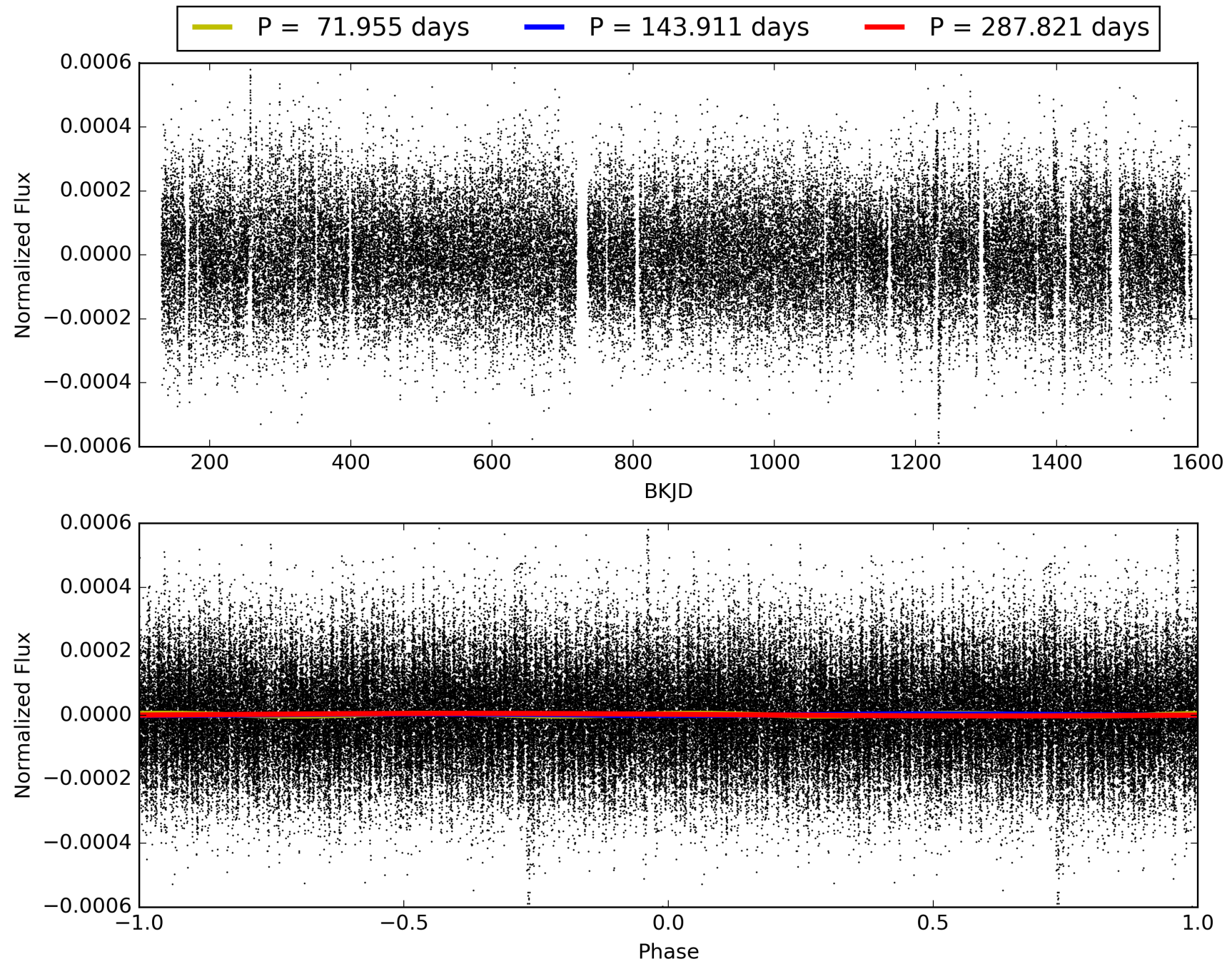
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 01-Feb-2016 00:18:37 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008553462-09, PDC Light Curves

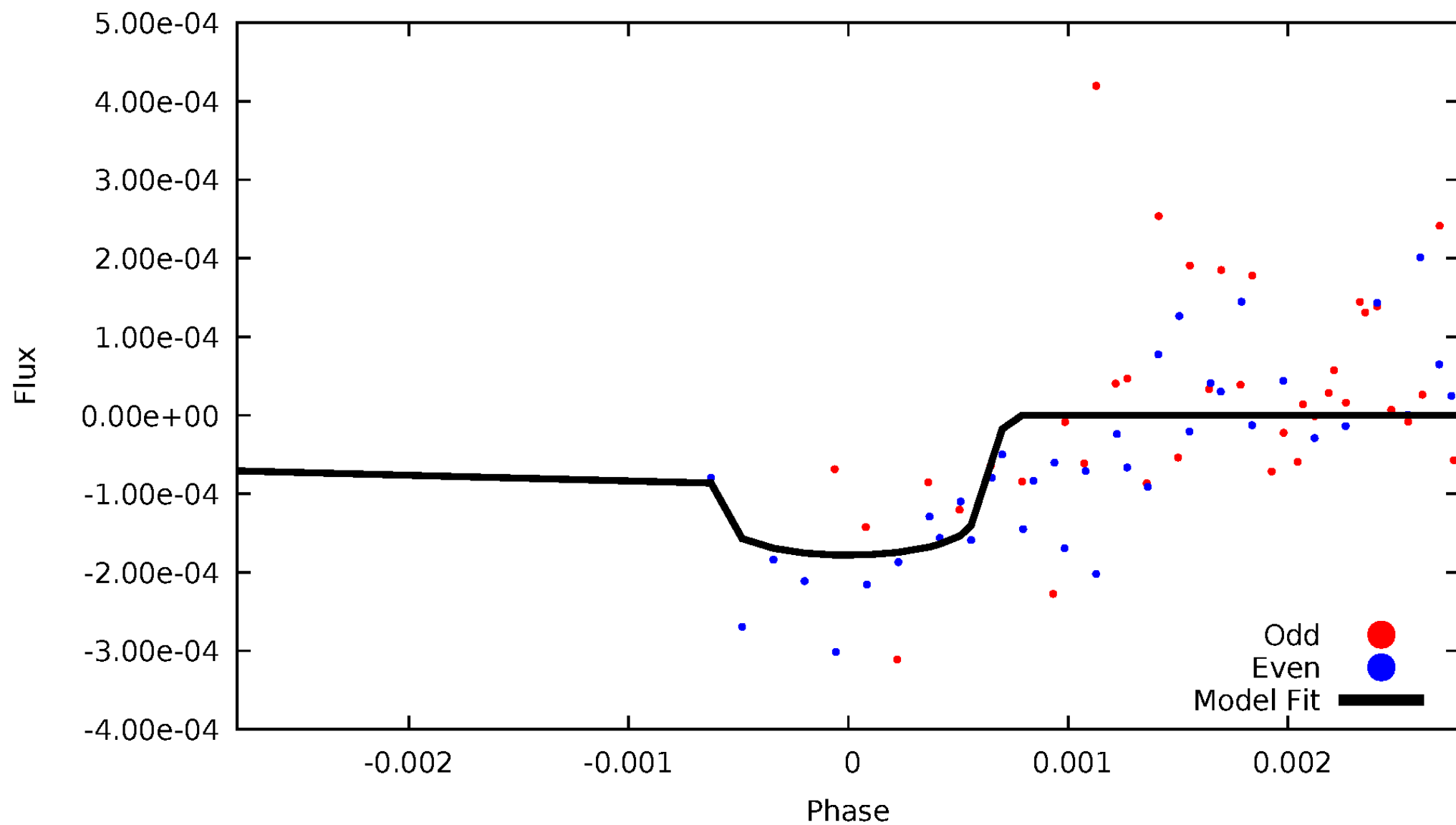


TCE 008553462-09



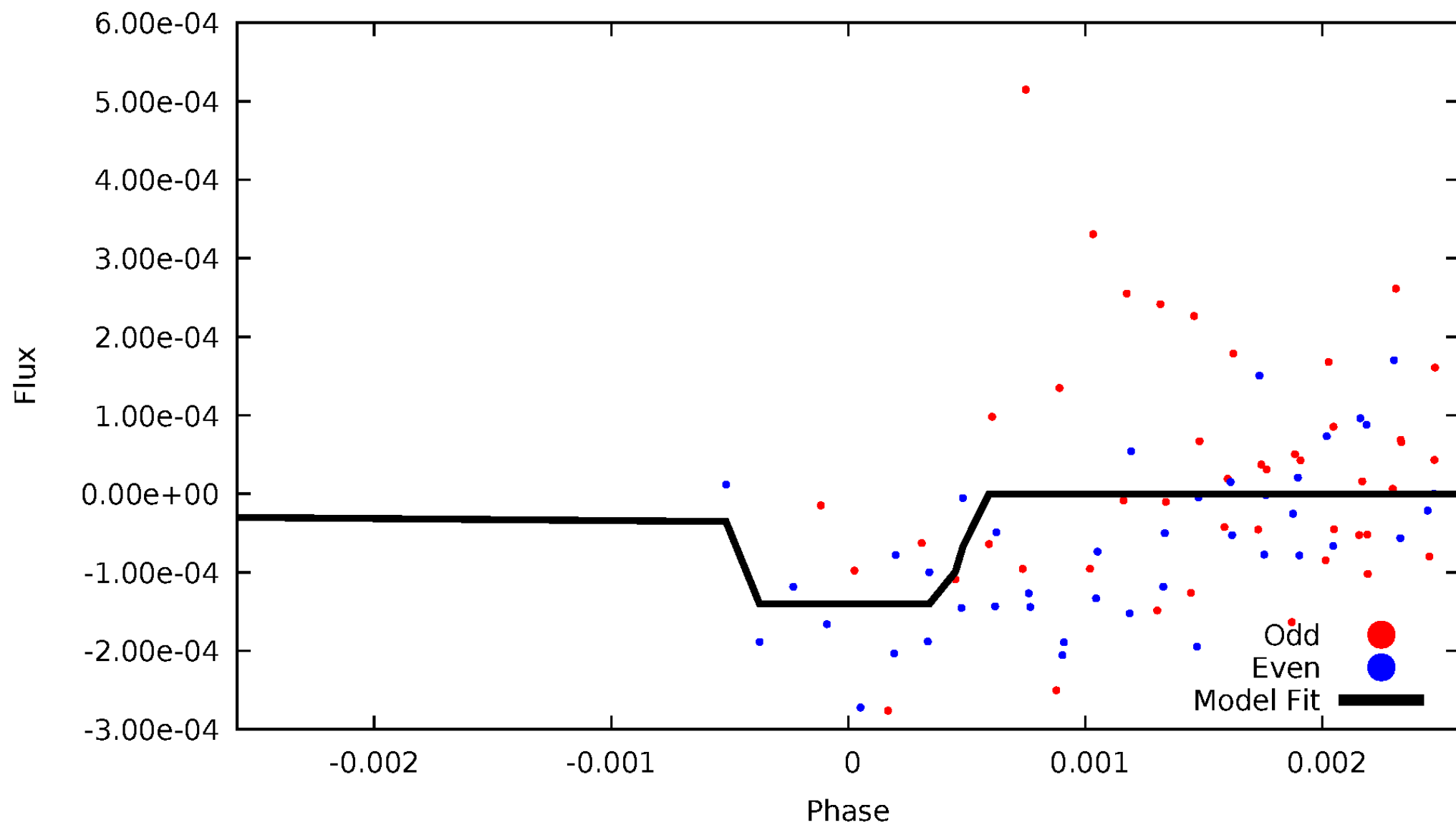
DV Odd/Even

TCE 008553462-09



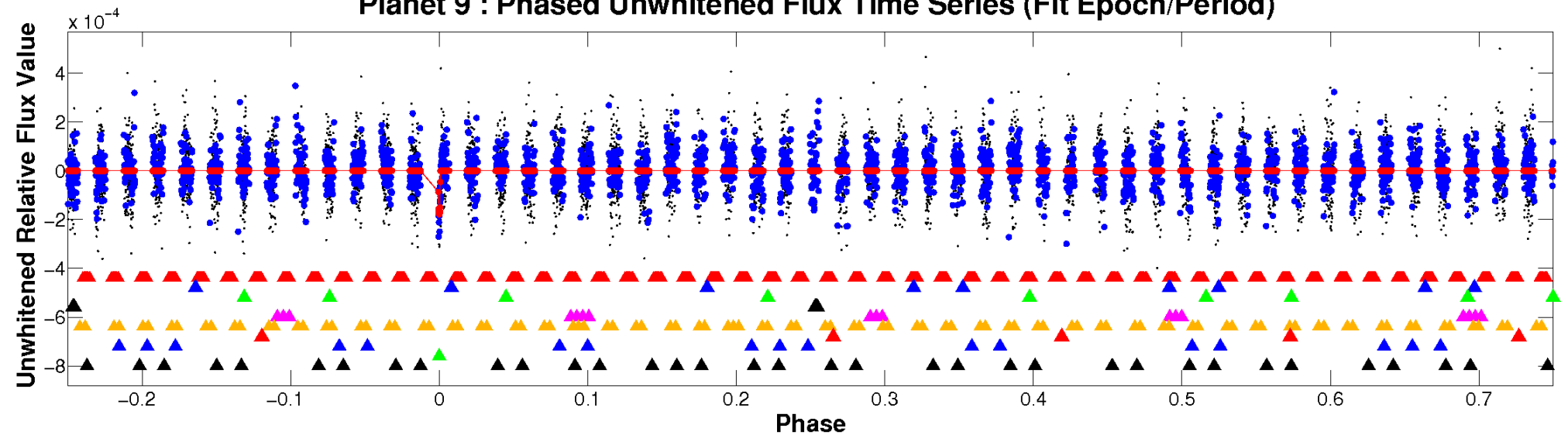
ALT Odd/Even

TCE 008553462-09

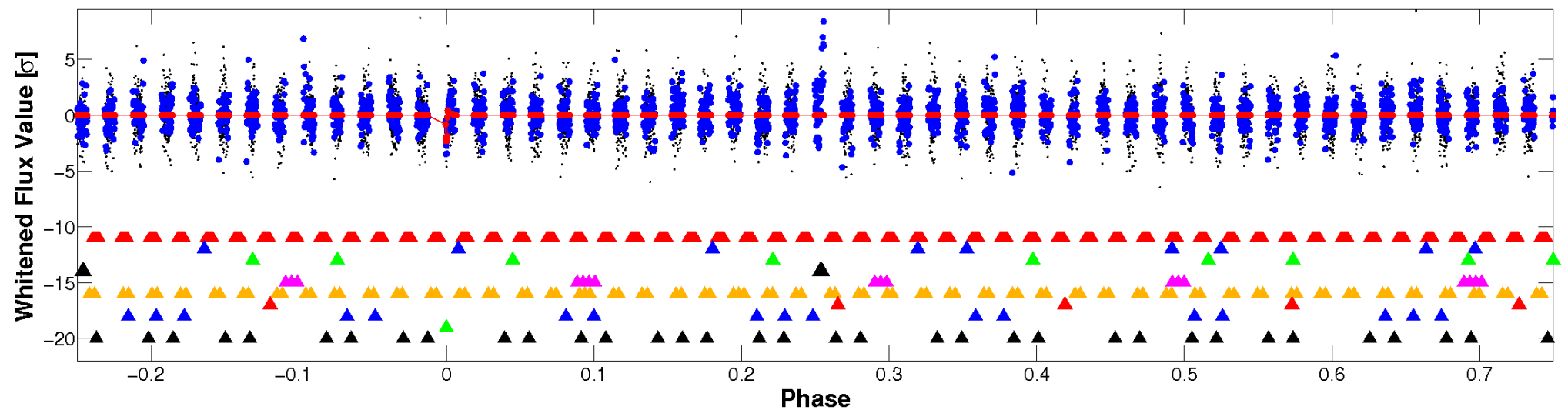


Non-Whitened Vs. Whitened Light Curve

Planet 9 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

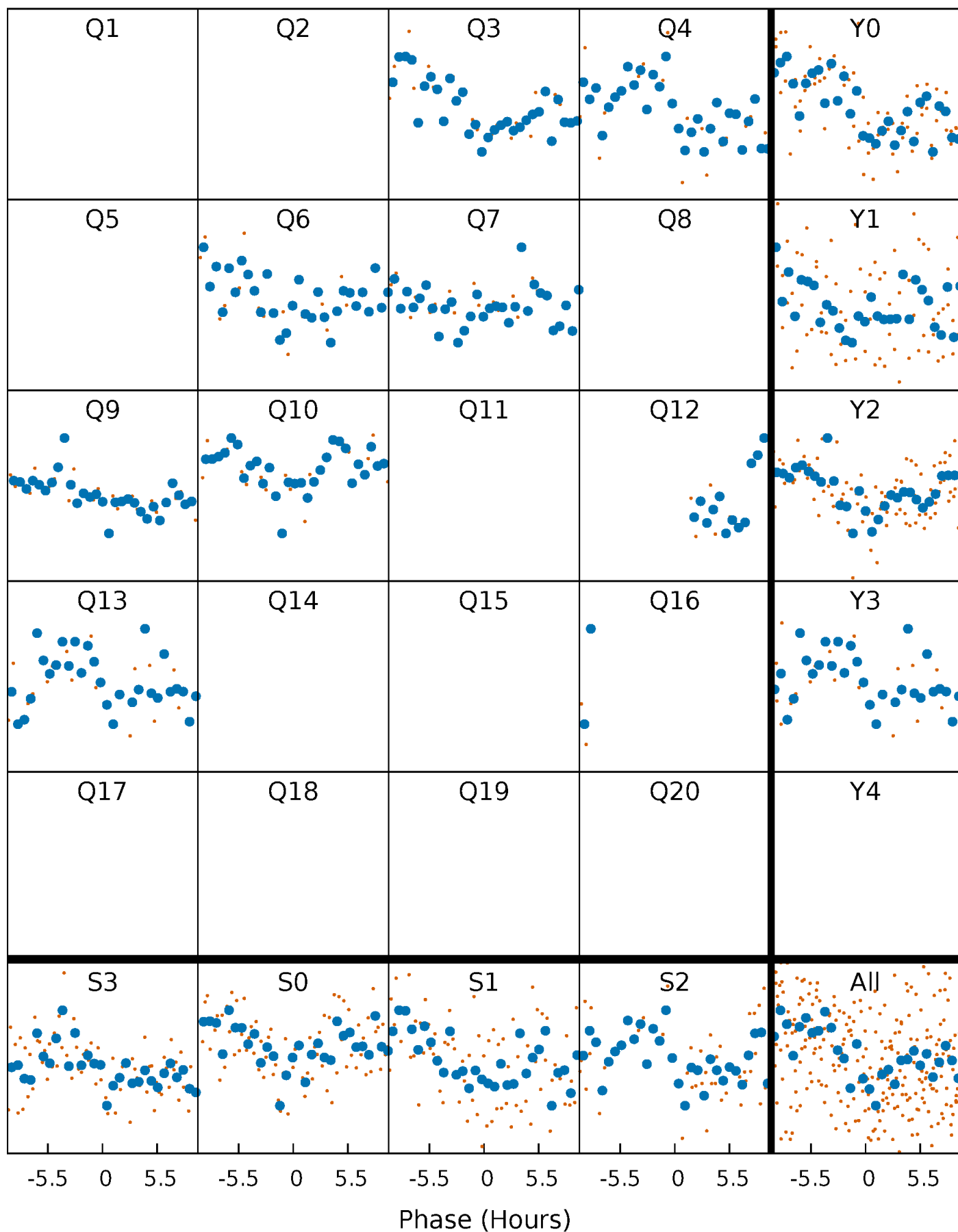


Planet 9 : Phased Whitened Flux Time Series (Fit Epoch/Period)



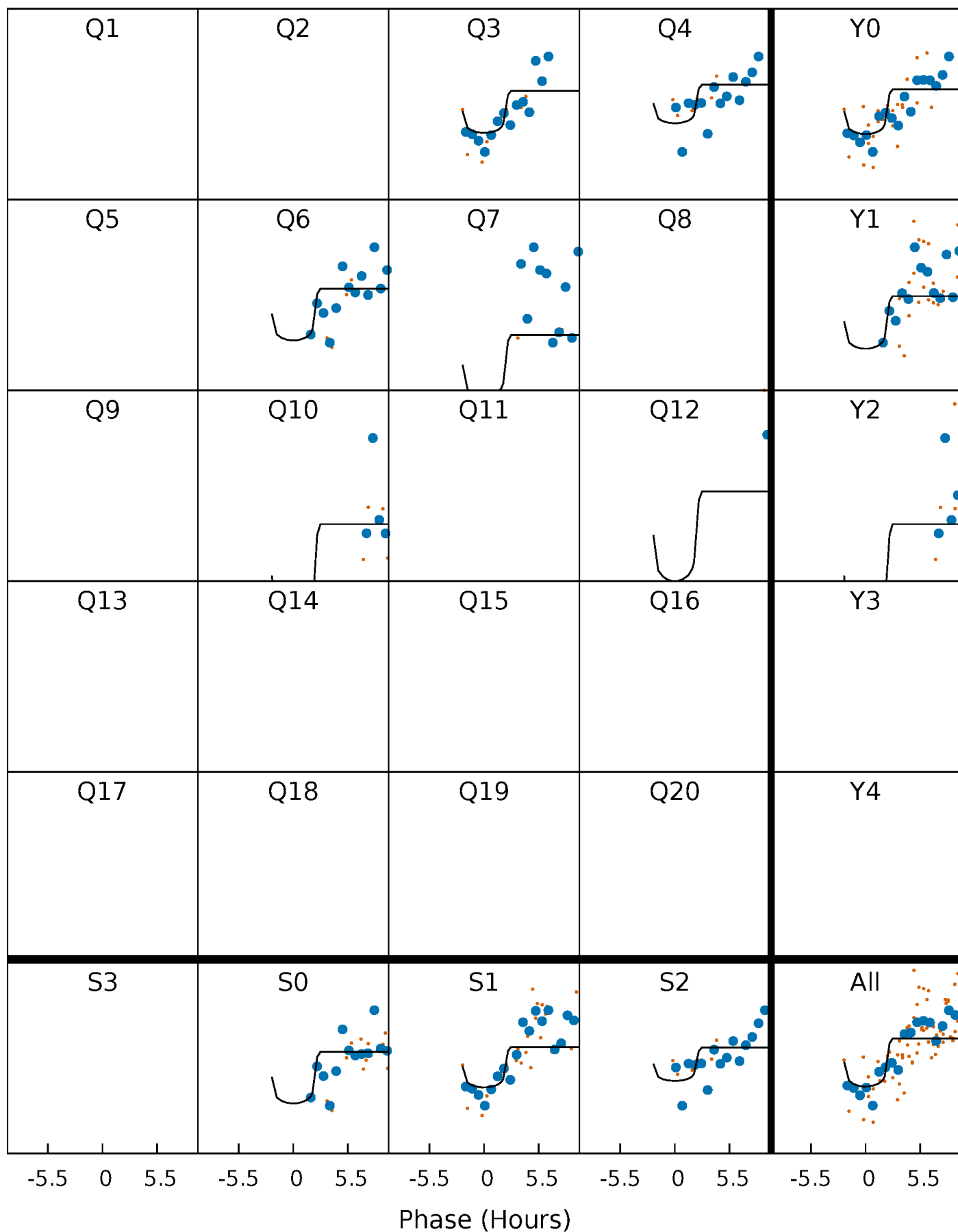
PDC Quarter-Phased Transit Curves

TCE 008553462-09 $P=143.910724$ Days $T_0=263.113872$ (BKJD)



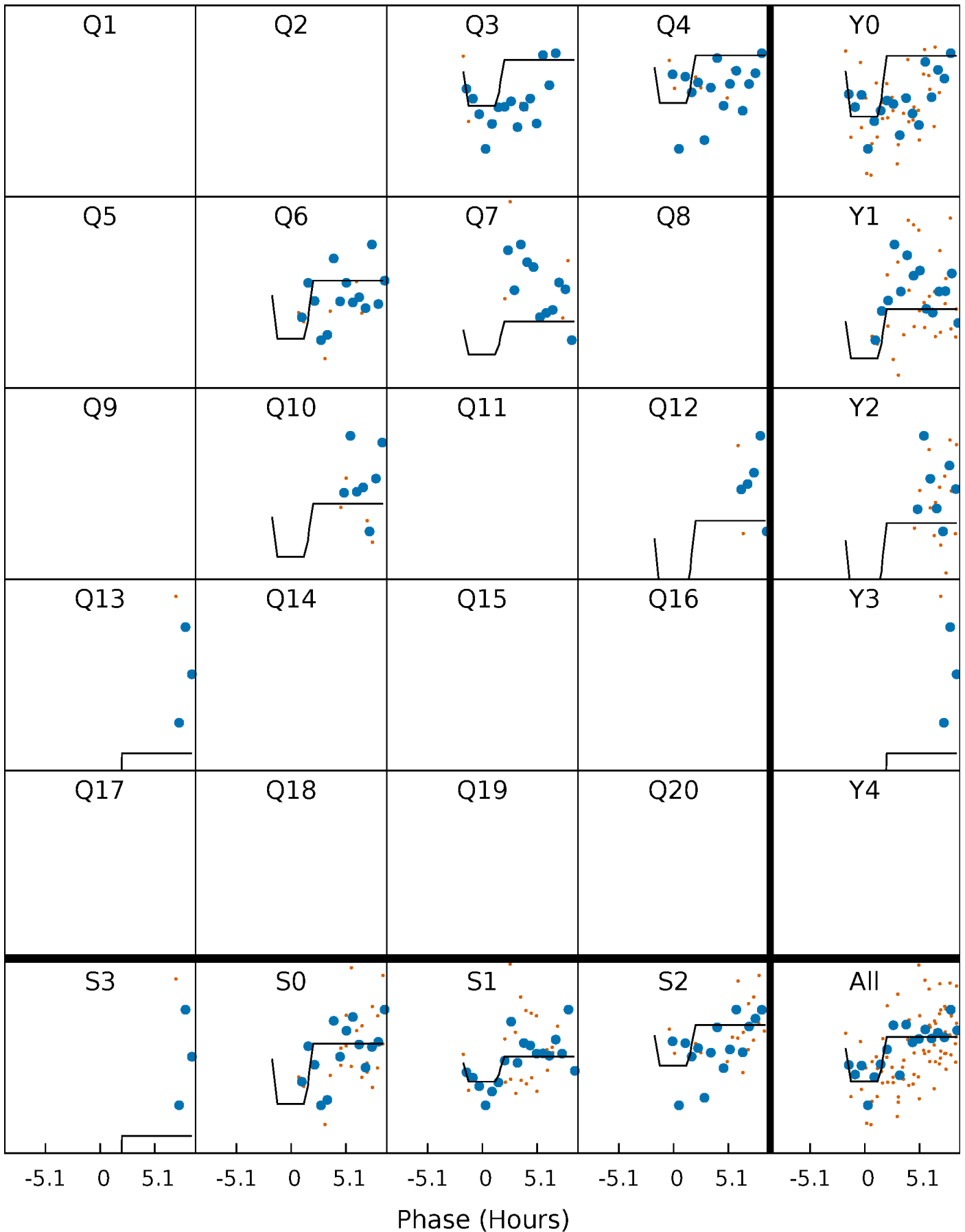
DV Quarter-Phased Transit Curves

TCE 008553462-09 P=143.910724 Days $T_0=263.113872$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

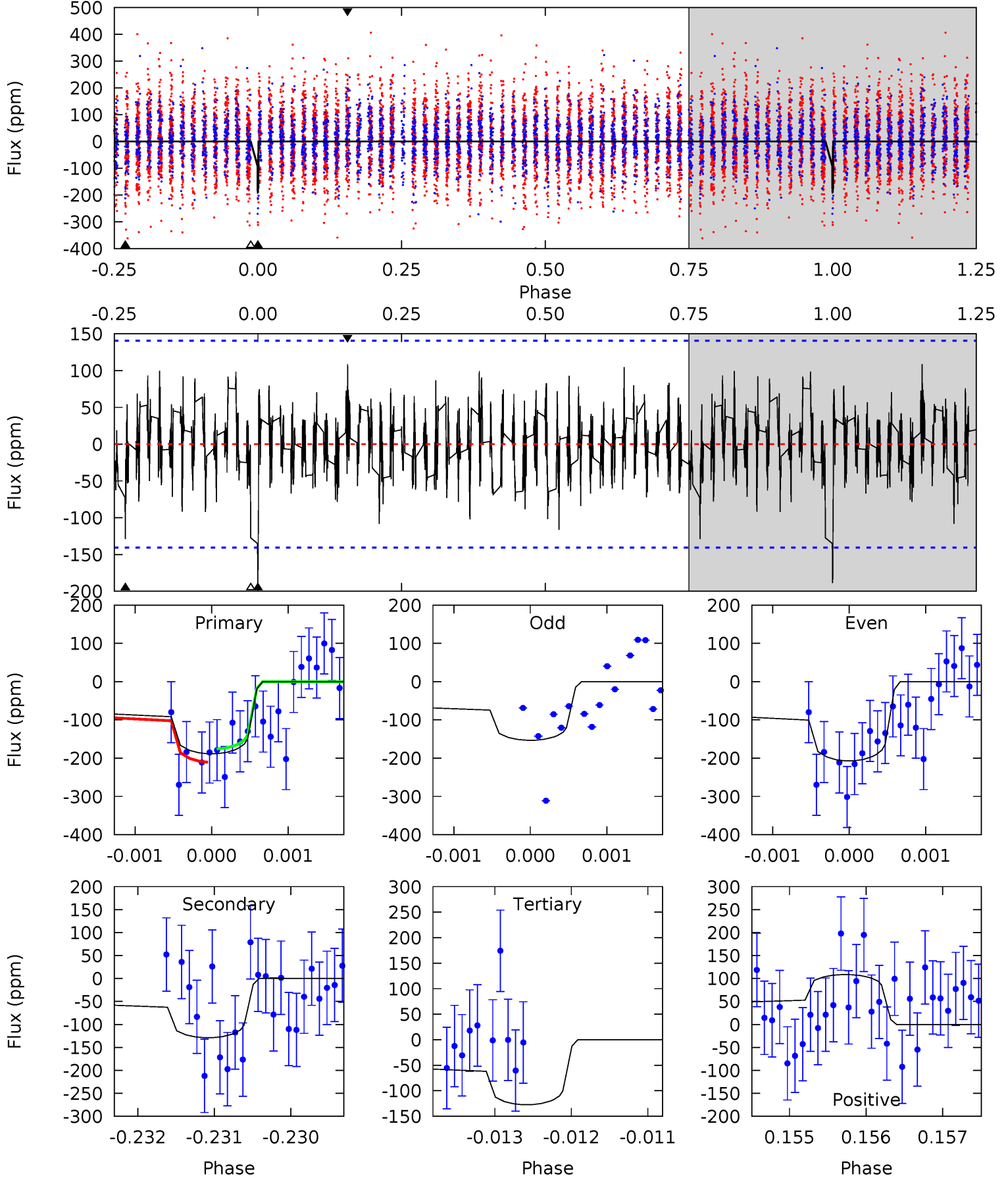
TCE 008553462-09 P=143.934093 Days $T_0=263.098278$ (BKJD)



DV Model-Shift Uniqueness Test

008553462-09, P = 143.910724 Days, E = 119.203148 Days

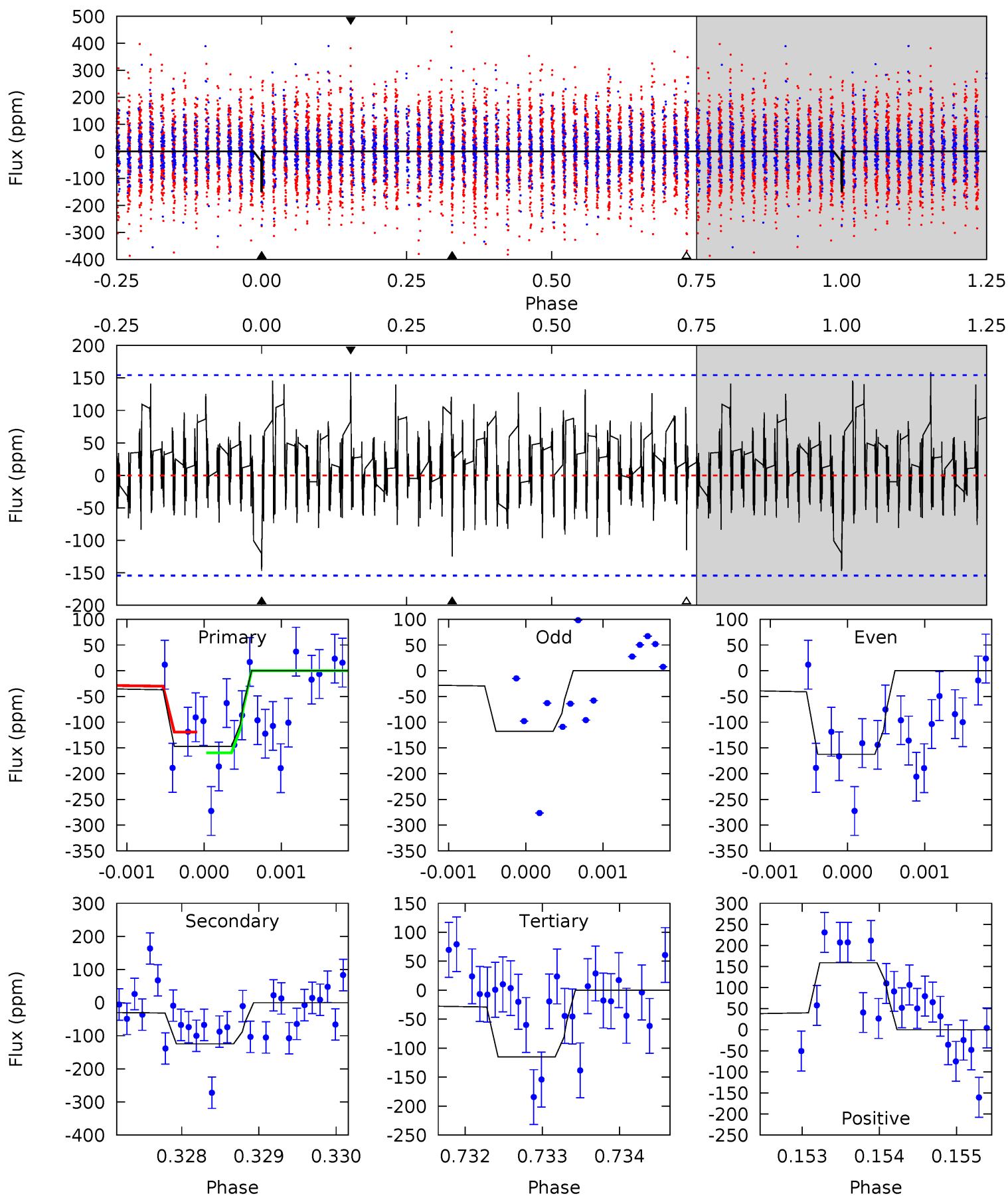
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.28	4.97	4.91	4.19	5.42	3.24	1.33	2.36	3.09	0.06	0.79	1.02	0.99	0.37	0.58



Alt Model-Shift Uniqueness Test

008553462-09, P = 143.934093 Days, E = 119.164185 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
5.20	4.41	4.06	5.62	5.46	3.30	1.36	1.13	-0.42	0.34	-1.21	0.76	1.10	0.52	0.58



Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-09 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	-129 ± 26	$2.82^{+1.29}_{-1.14}$	773^{+54}_{-54}	6425^{+2398}_{-1039}	3460^{+6425}_{-1948}
Alt.	-125 ± 28	$2.44^{+1.21}_{-1.17}$	769^{+57}_{-49}	6933^{+3789}_{-1358}	4608^{+12426}_{-2763}

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
 A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

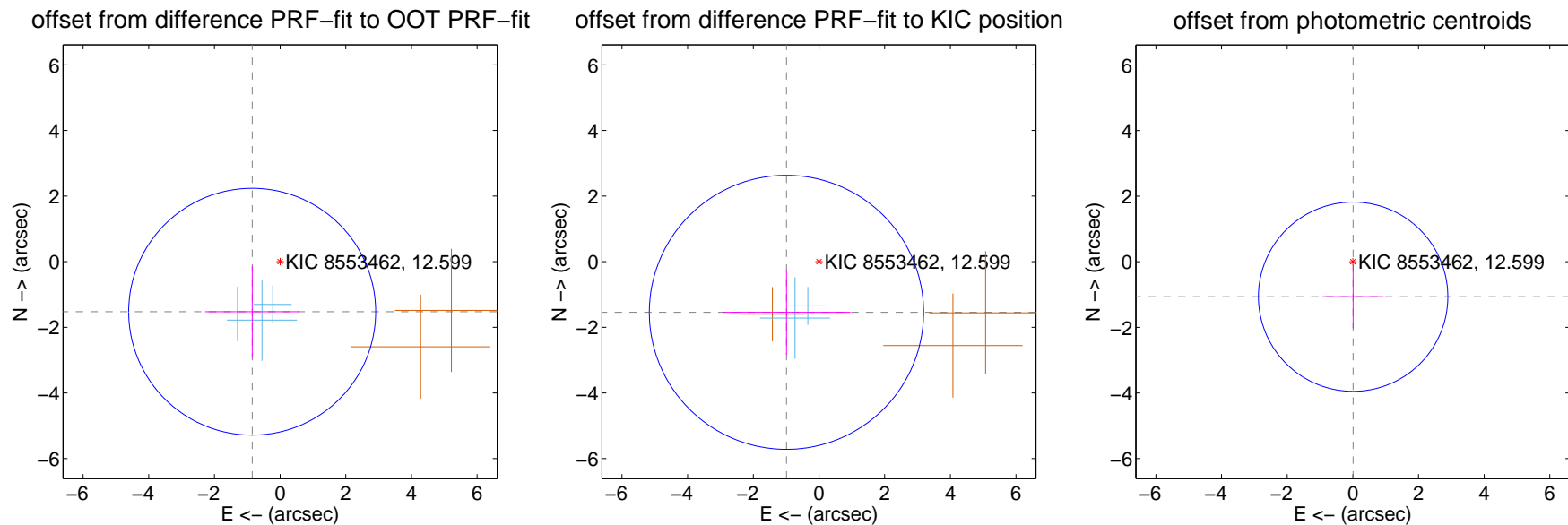
DV Centroid Data

Supplemental centroid analysis for 008553462-09. Kepler magnitude: 12.60. Transit SNR 8.25

There are 2 quarters with good PRF difference image offsets

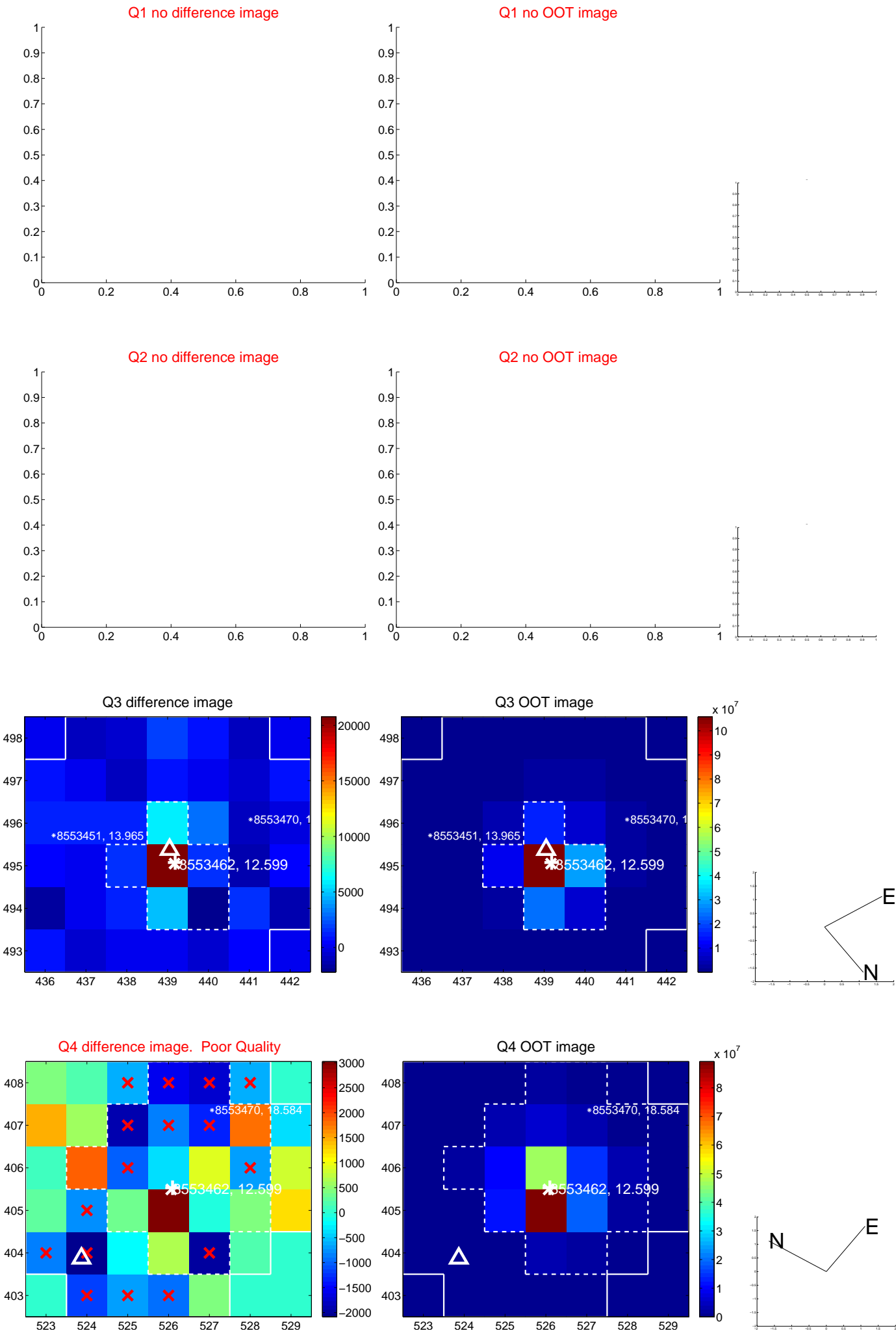
The direct PRF centroid is offset from the target star catalog position by about 0.20 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.745 ± 1.254	1.39	0.850 ± 1.434	-1.524 ± 1.385
PRF-fit source offset from KIC position	1.833 ± 1.392	1.32	0.991 ± 1.951	-1.543 ± 1.286
photometric centroid source offset	1.07 ± 0.96	1.11	-0.01 ± 0.93	-1.07 ± 0.96

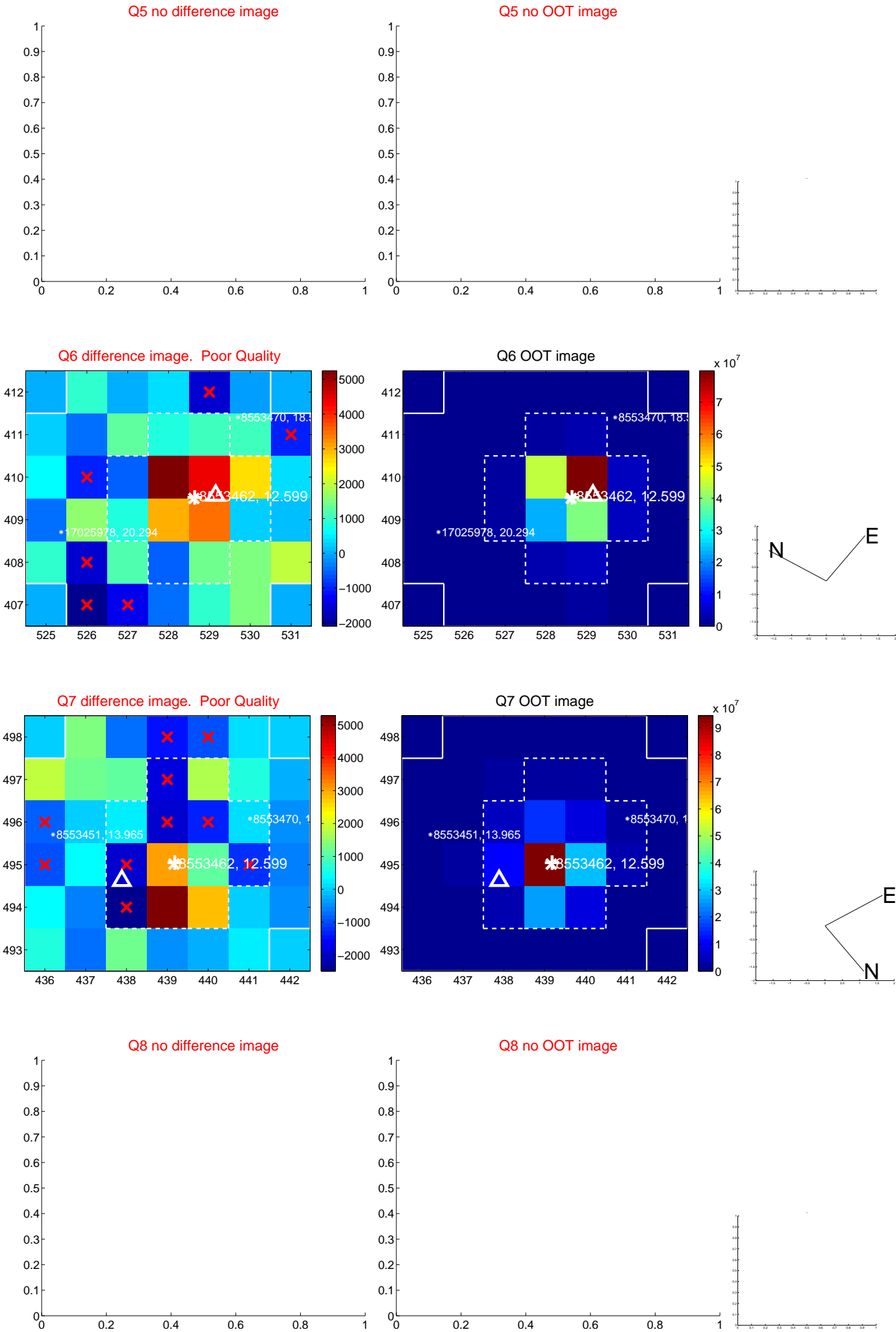


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

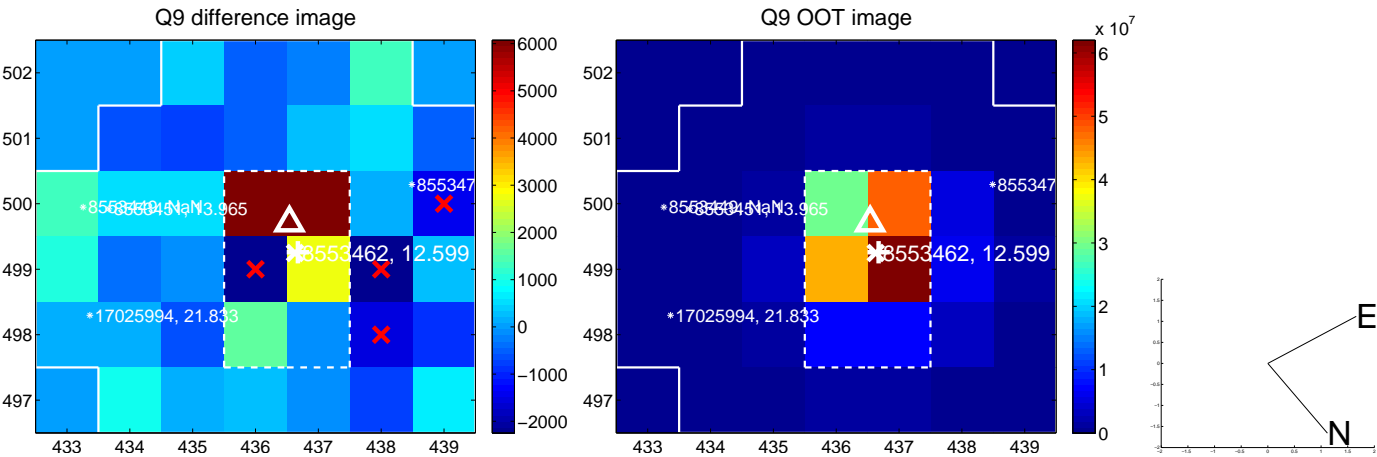
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



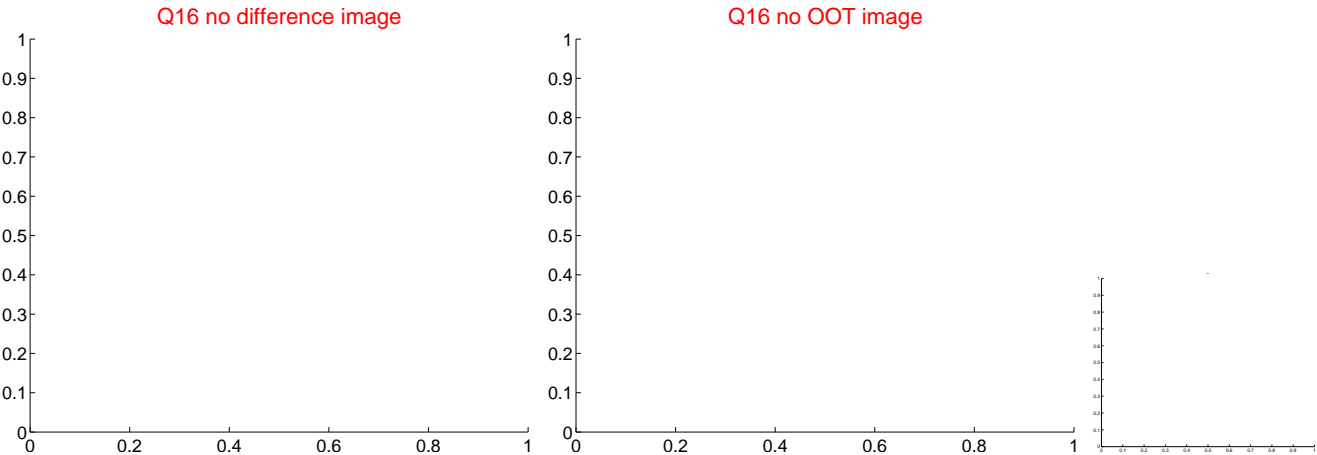
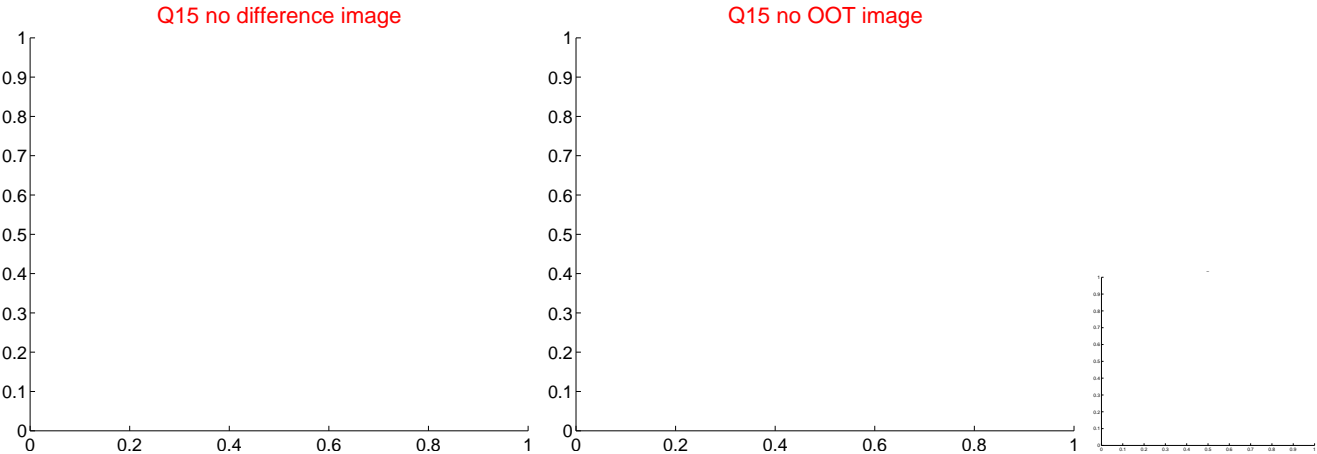
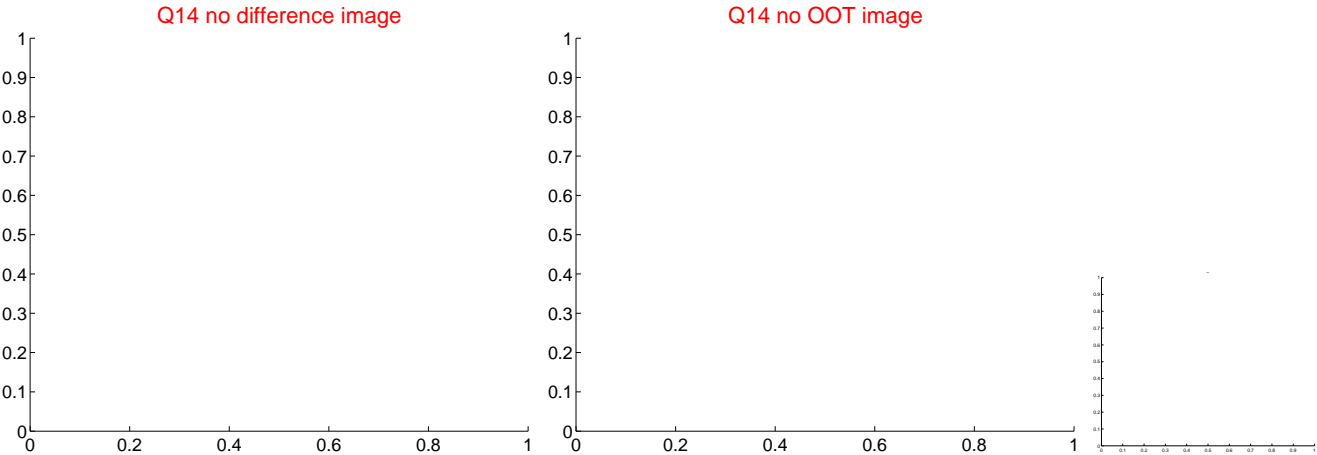
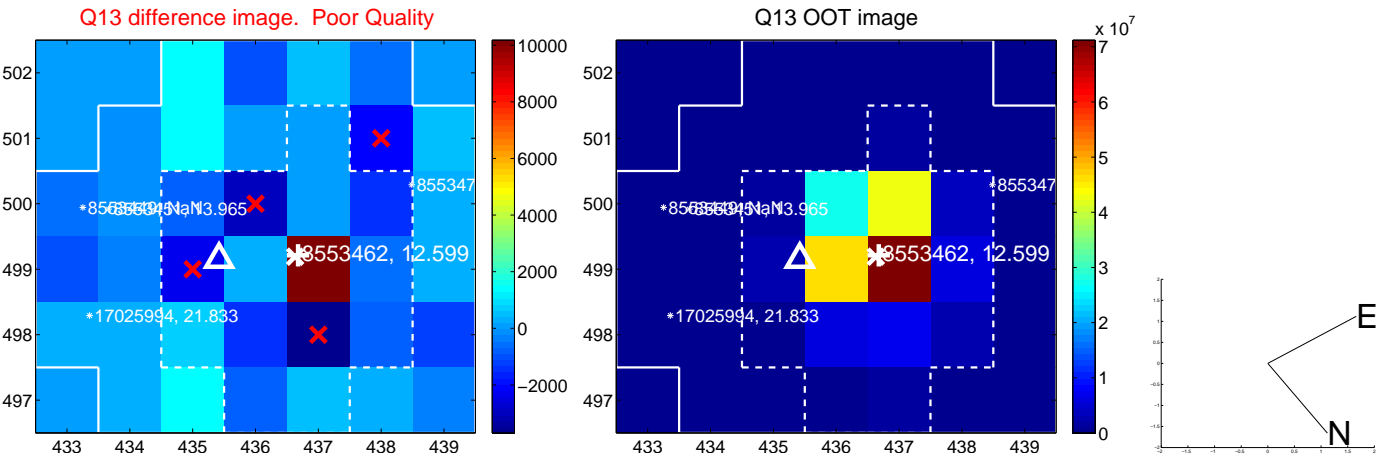
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



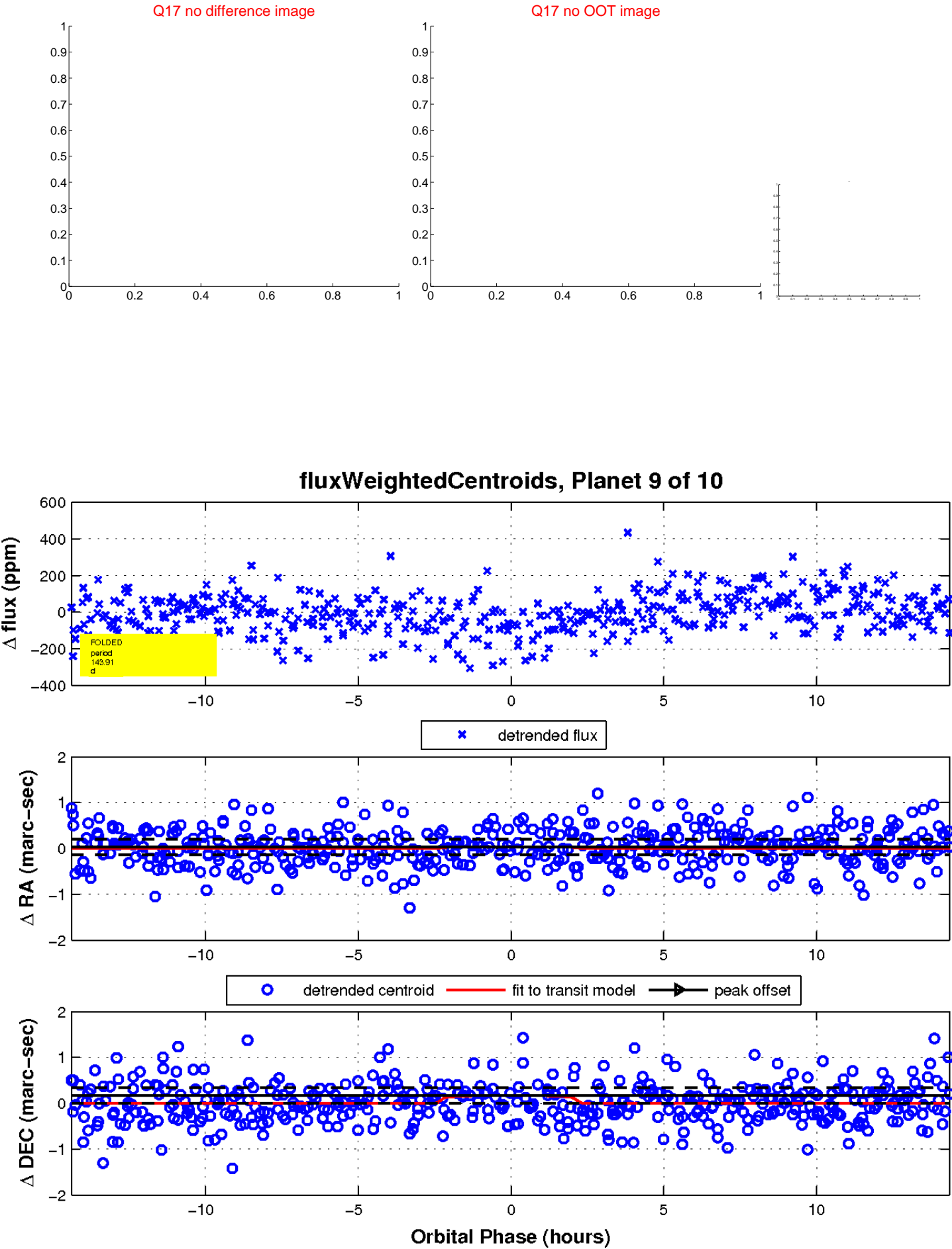
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.

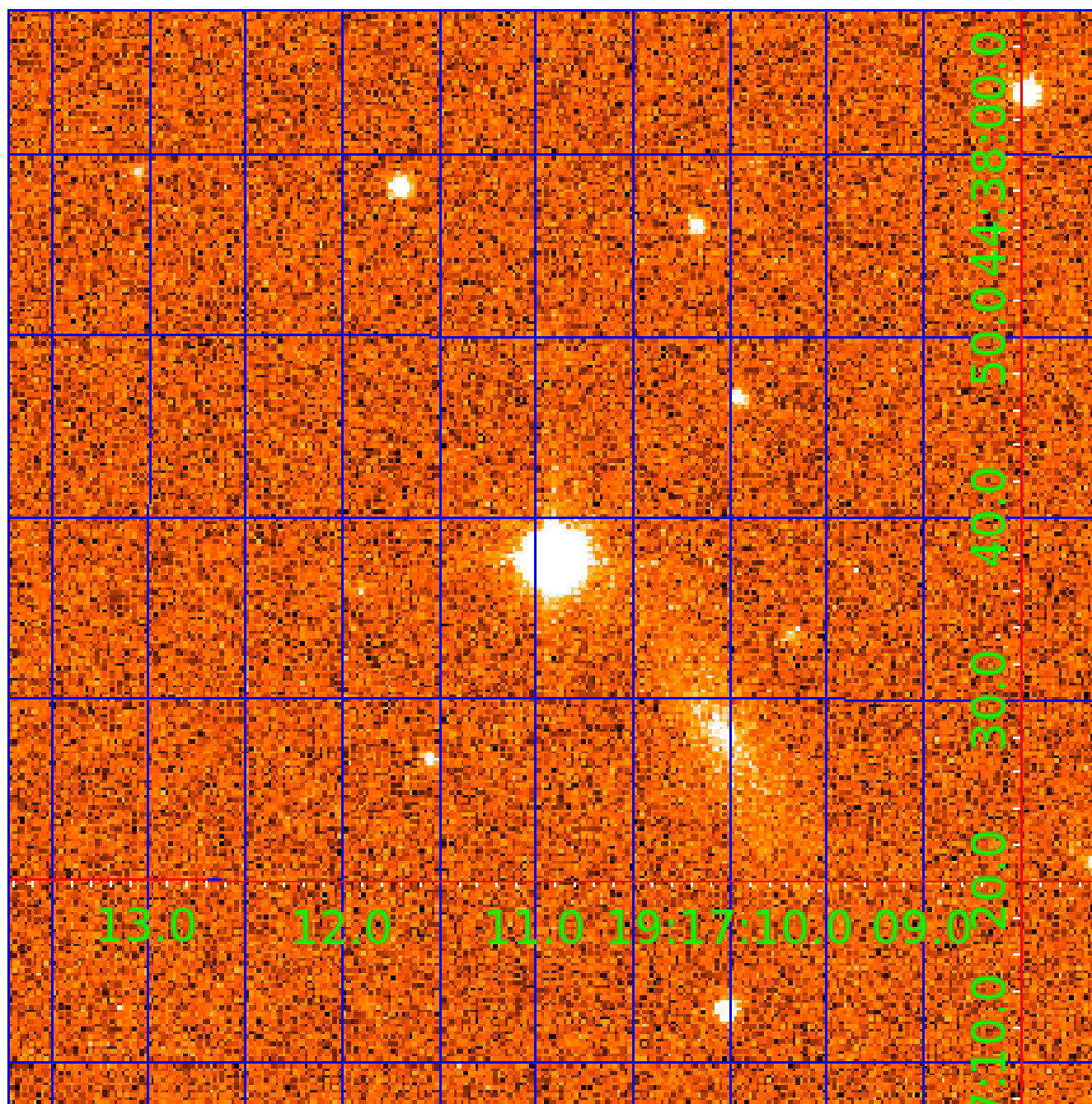


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008553462-01	OBS	No	2.768998	134.441172	0.0	18.950	9.1	0.0	1.84	7296	0.04	4252.50
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008553462-04	OBS	No	215.902359	155.628727	135.2	9.415	10.6	10.0	1.84	7296	2.42	12.77
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008553462-06	OBS	No	15.001439	132.186756	73.2	5.330	8.7	10.2	1.84	7296	1.80	446.92
008553462-07	OBS	No	265.683201	389.849295	210.2	64.946	9.4	9.8	1.84	7296	2.93	9.68
008553462-08	OBS	No	82.624800	210.760893	185.7	2.972	9.0	8.8	1.84	7296	2.94	45.95
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008553462-10	OBS	No	42.186045	144.620372	281.0	1.500	9.1	-1.0	1.84	7296	3.14	112.59

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008553462-01	OBS	FP	0.00	1	0	0	0	LPP_DV
008553462-02	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_MARSHALL_SKYE—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS—HALO_GHOST
008553462-03	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—LPP_ALT—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—INCONSISTENT_TRANS—CENT_FEW_DIFFS
008553462-04	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_MARSHALL—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-05	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_POS_ALT—CENT_UNCERTAIN
008553462-06	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—LPP_DV—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-07	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE_SKYE—LPP_DV—LPP_ALT—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—CENT_FEW_DIFFS
008553462-08	OBS	FP	0.00	1	0	0	0	INDIV_TRANS_RUBBLE—TRANS_GAPPED—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT
008553462-09	OBS	FP	0.00	1	0	1	0	INDIV_TRANS_RUBBLE_SKYE—TRANS_GAPPED—ALL_TRANS_CHASES—MOD_NONUNIQ_DV—MOD_NONUNIQ_ALT—MOD_TER_ALT—MOD_POS_ALT—HALO_GHOST
008553462-10	OBS	FP	0.00	1	0	0	0	TRANS_GAPPED—NO_FITS—CENT_NOFITS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

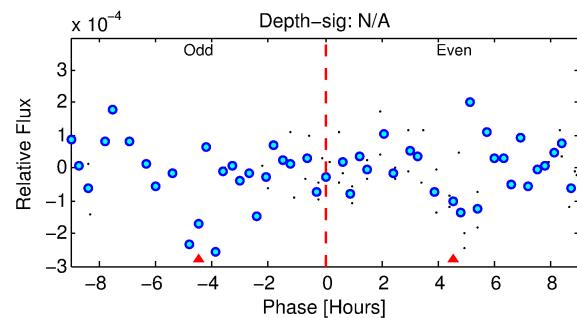
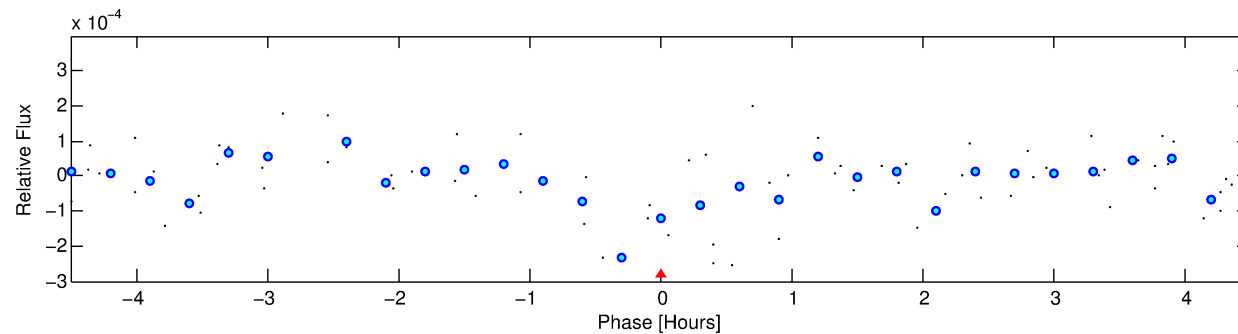
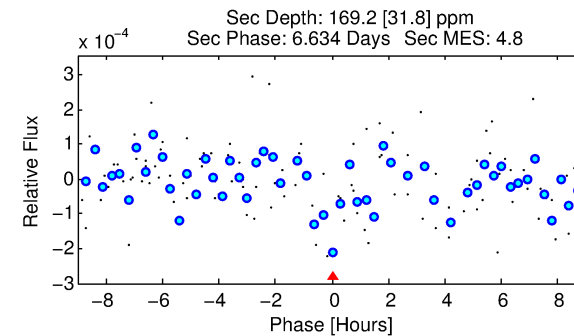
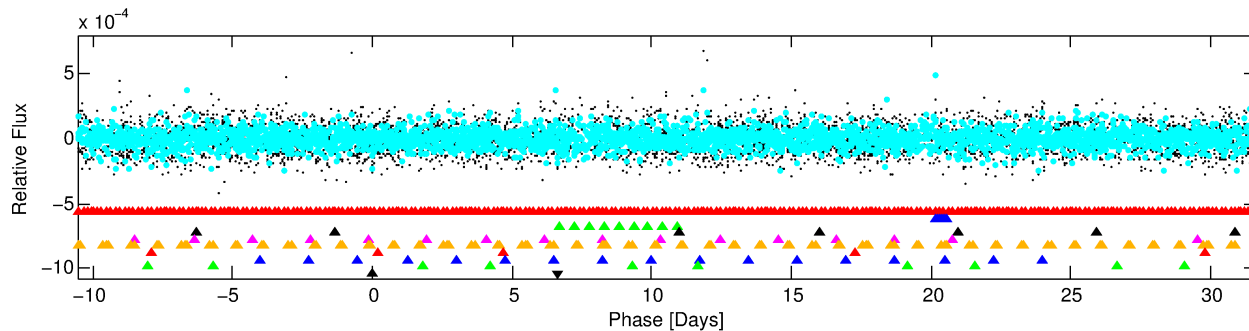
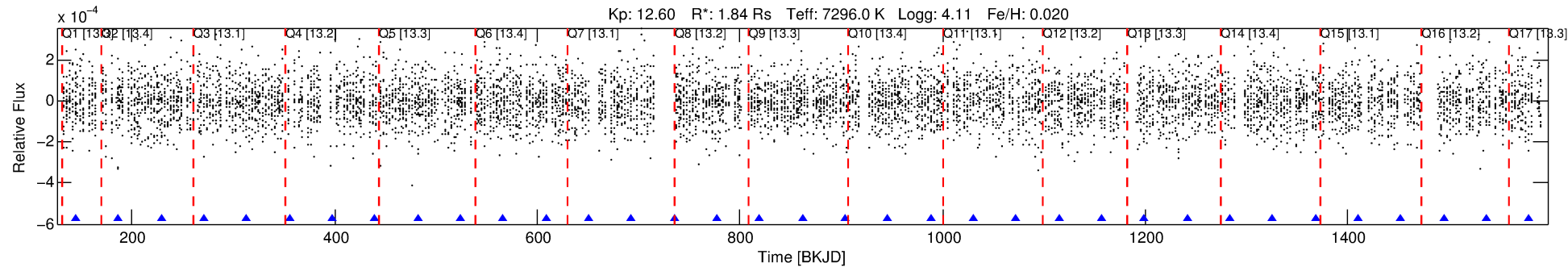
See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

Ephemeris Match Information For 008553462-10

No Significant Match Found

DV One-Page Summary

KIC: 8553462 Candidate: 10 of 10 Period: 42.186 d



TPS TCE Results:

Period = 42.18605 d
Epoch = 144.6204 BKJD

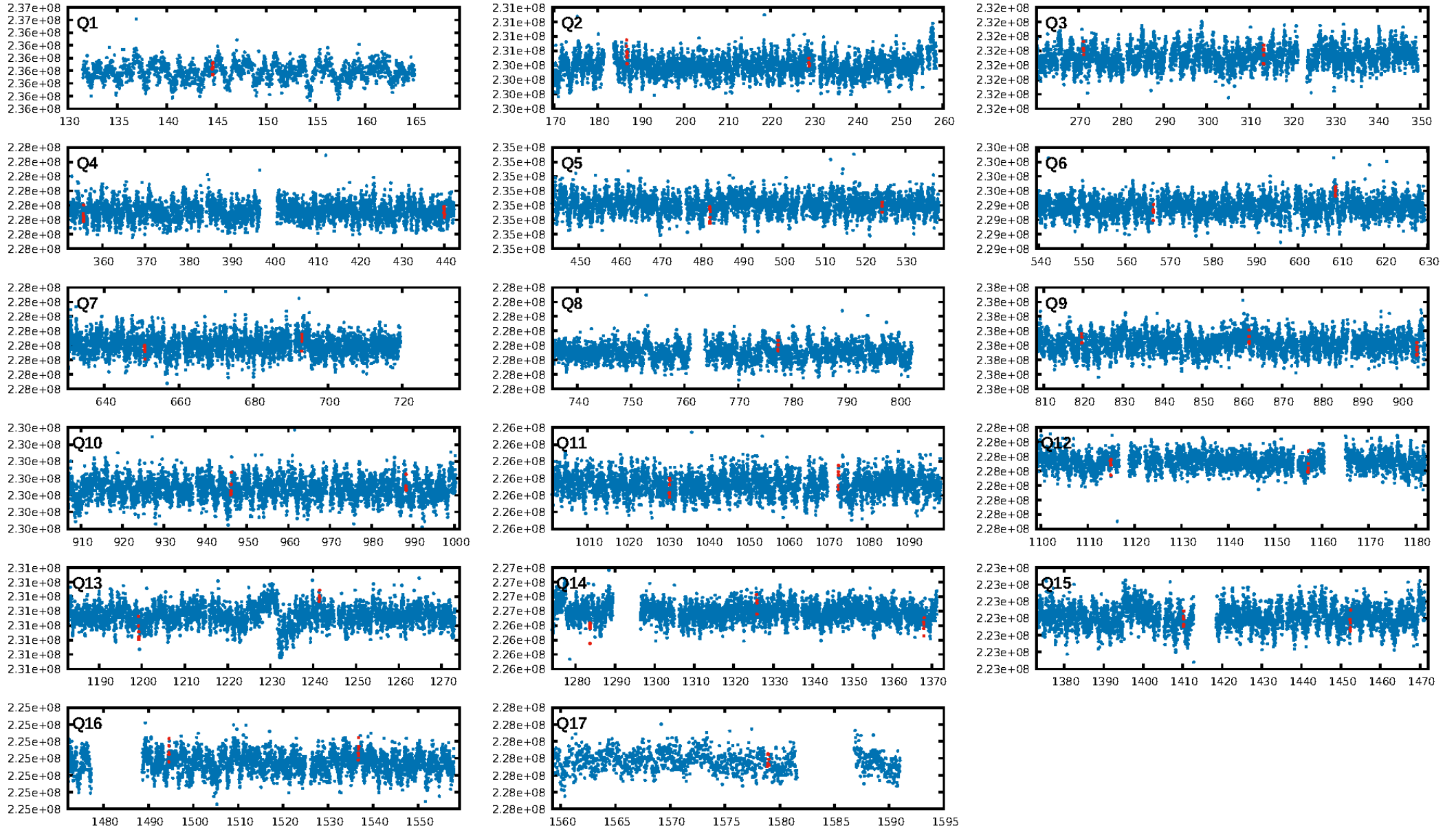
DV fit results are unavailable

DV Diagnostic Results:

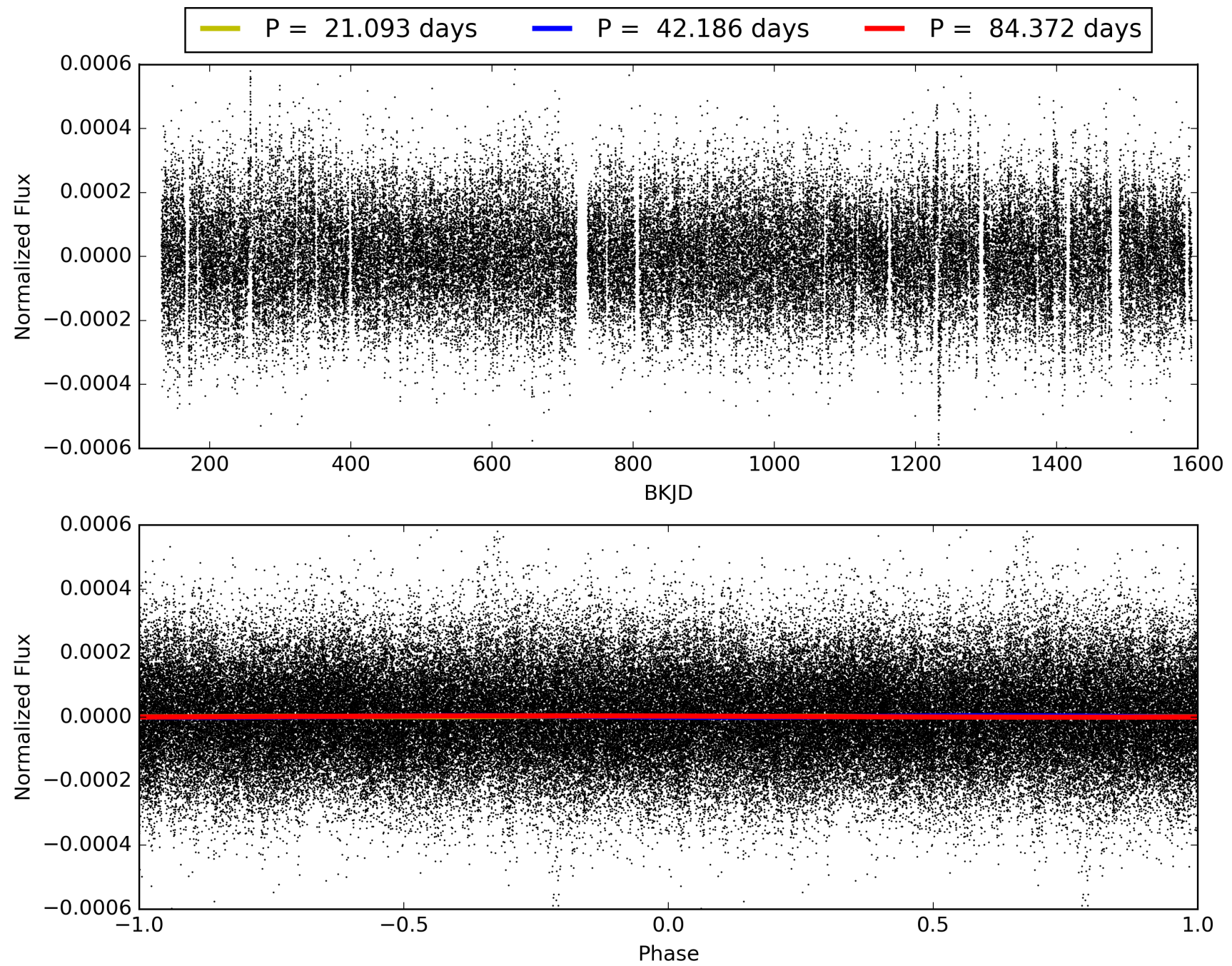
ShortPeriod-sig: 100.0% [117.82σ]
LongPeriod-sig: 100.0% [291.54σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: N/A
RollingBand-fgt: N/A
GhostDiagnostic-chr: N/A

Centroid-sig: N/A
Centroid-so: N/A
OotOffset-rm: N/A
KicOffset-rm: N/A
OotOffset-st: 0/0/0 [0]
KicOffset-st: 0/0/0 [0]
DiffImageQuality-fgm: N/A
DiffImageOverlap-fno: N/A

TCE 008553462-10, PDC Light Curves

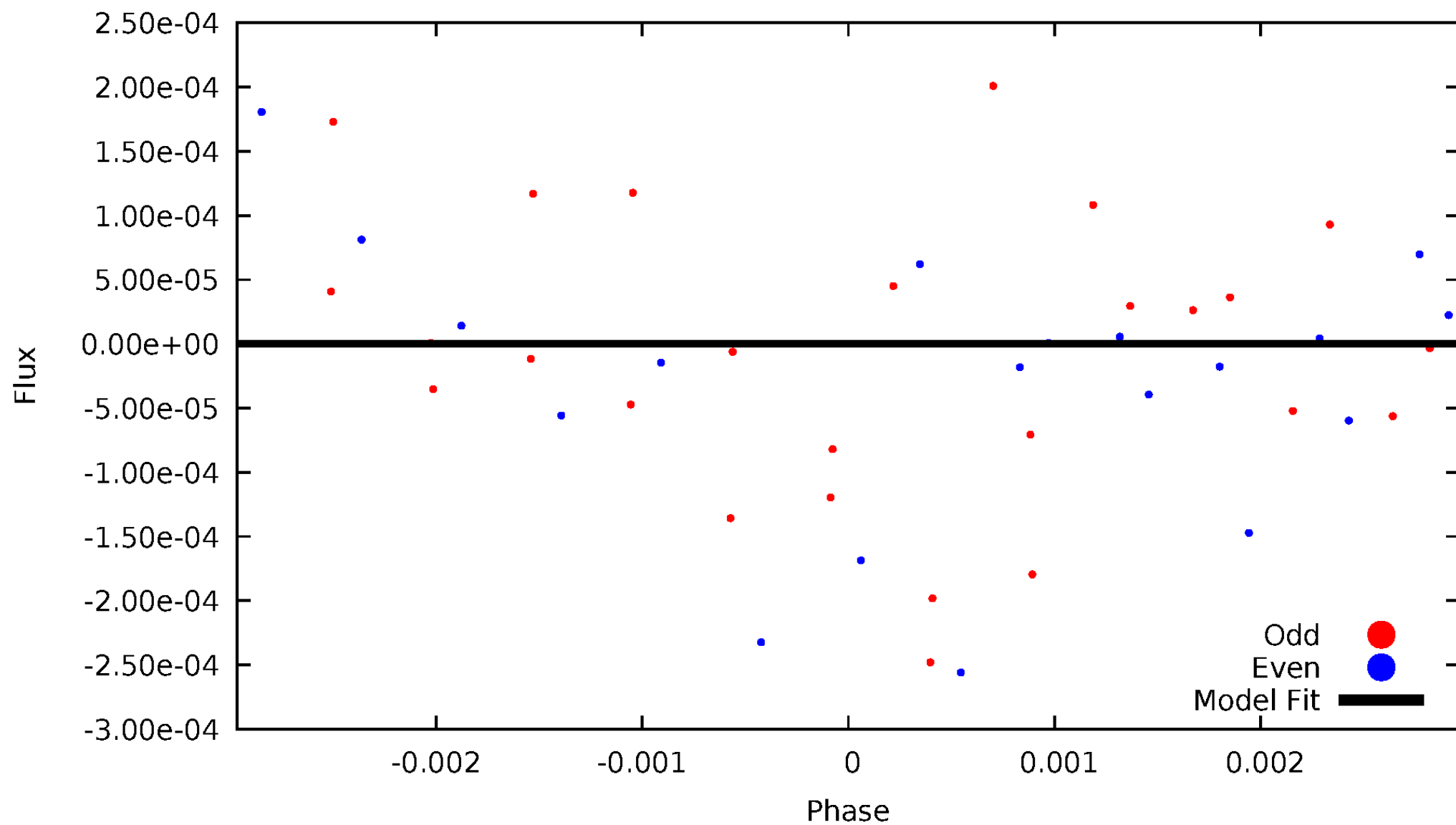


TCE 008553462-10



DV Odd/Even

TCE 008553462-10

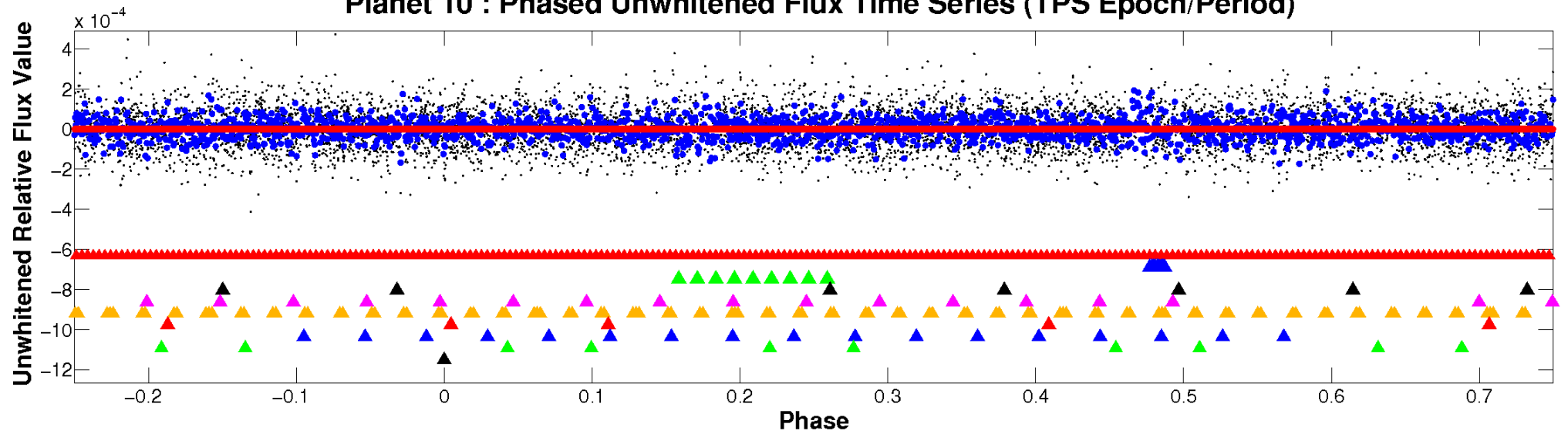


ALT Odd/Even

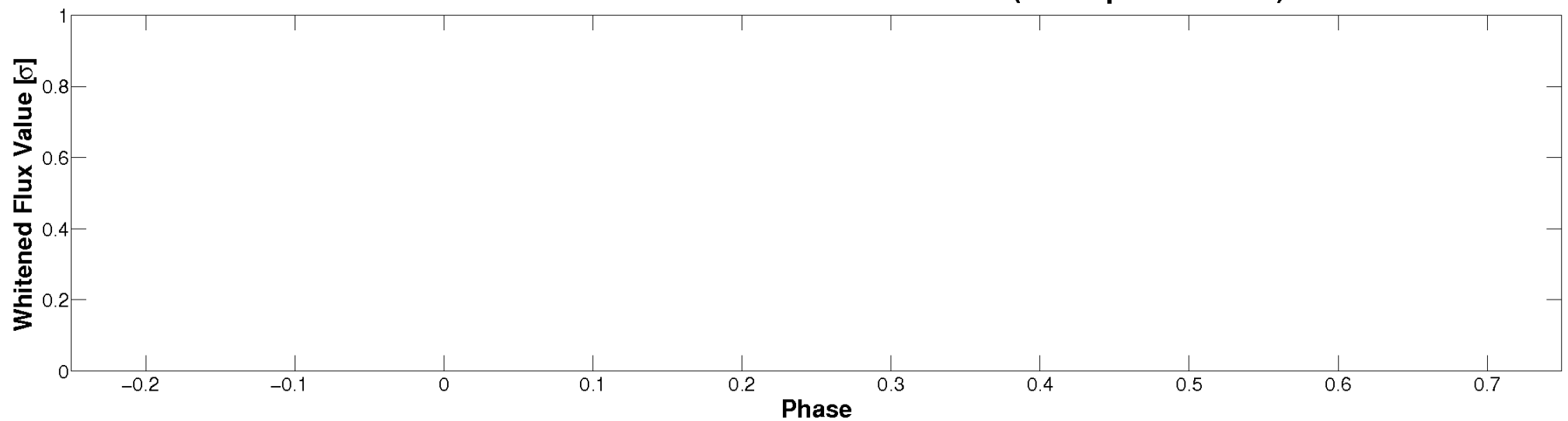
This plot does not exist for this TCE.

Non-Whitened Vs. Whitened Light Curve

Planet 10 : Phased Unwhitened Flux Time Series (TPS Epoch/Period)

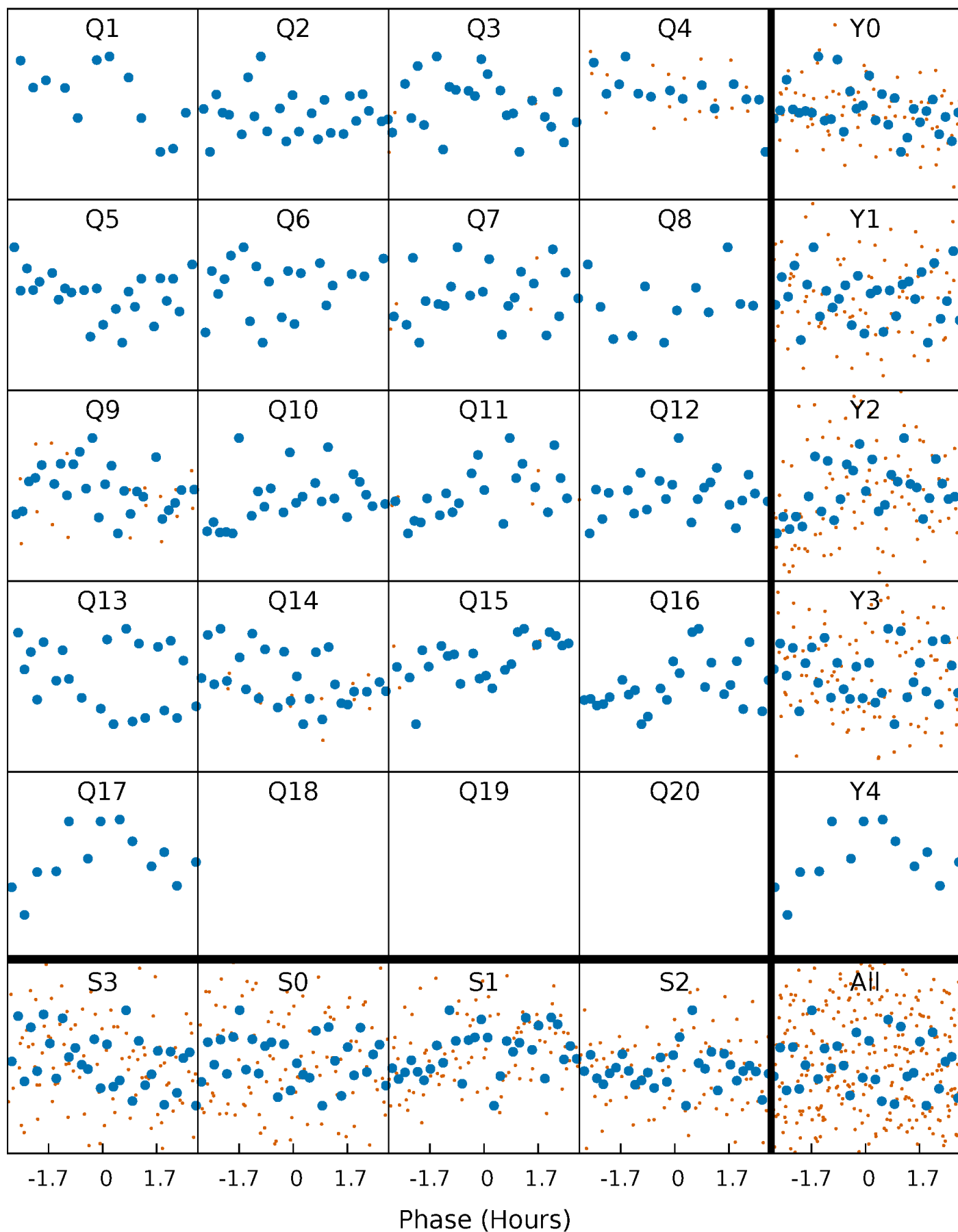


Planet 10 : Phased Whitened Flux Time Series (TPS Epoch/Period)



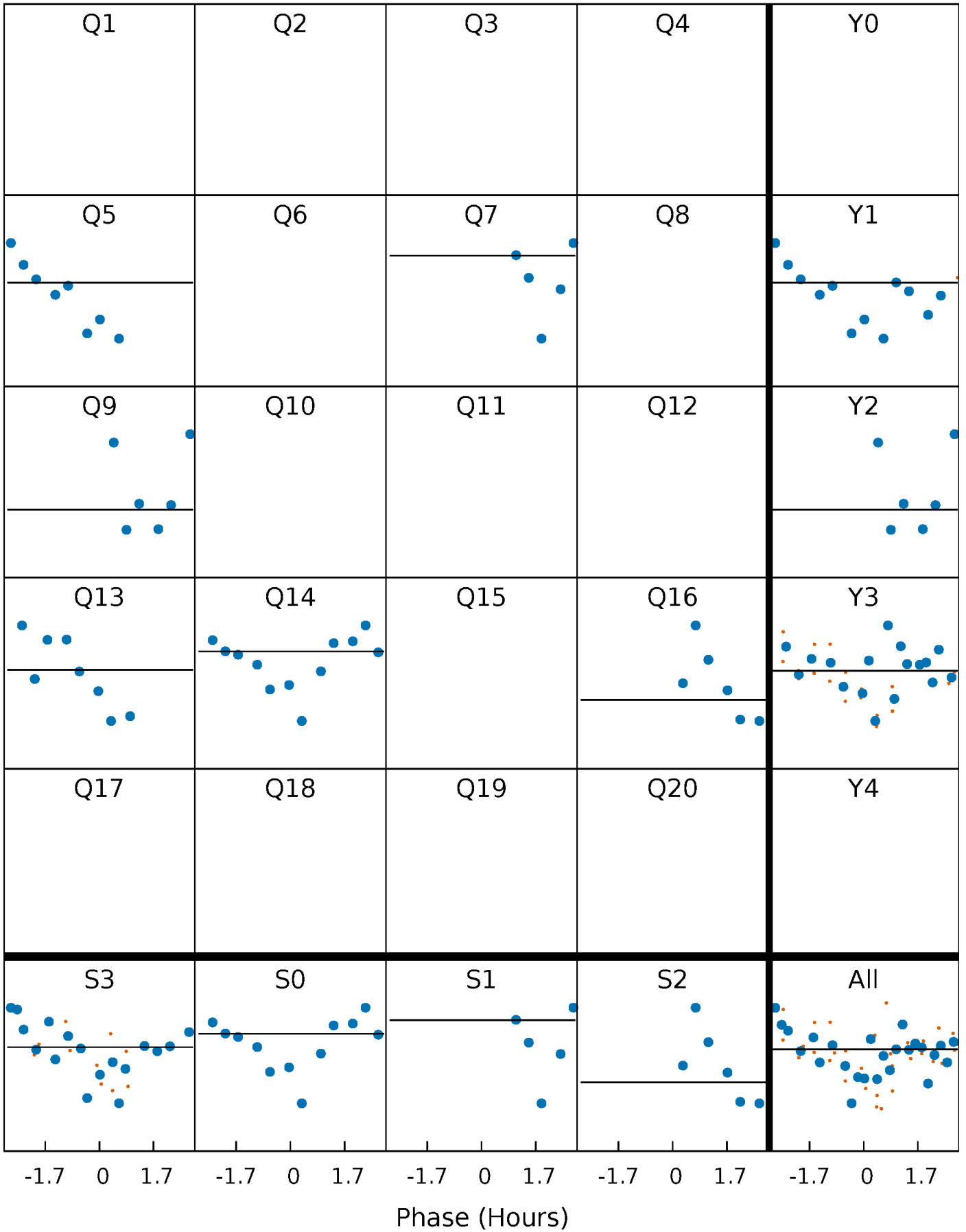
PDC Quarter-Phased Transit Curves

TCE 008553462-10 P= 42.186045 Days $T_0=144.620372$ (BKJD)



DV Quarter-Phased Transit Curves

TCE 008553462-10 P= 42.186045 Days $T_0=144.620372$ (BKJD)

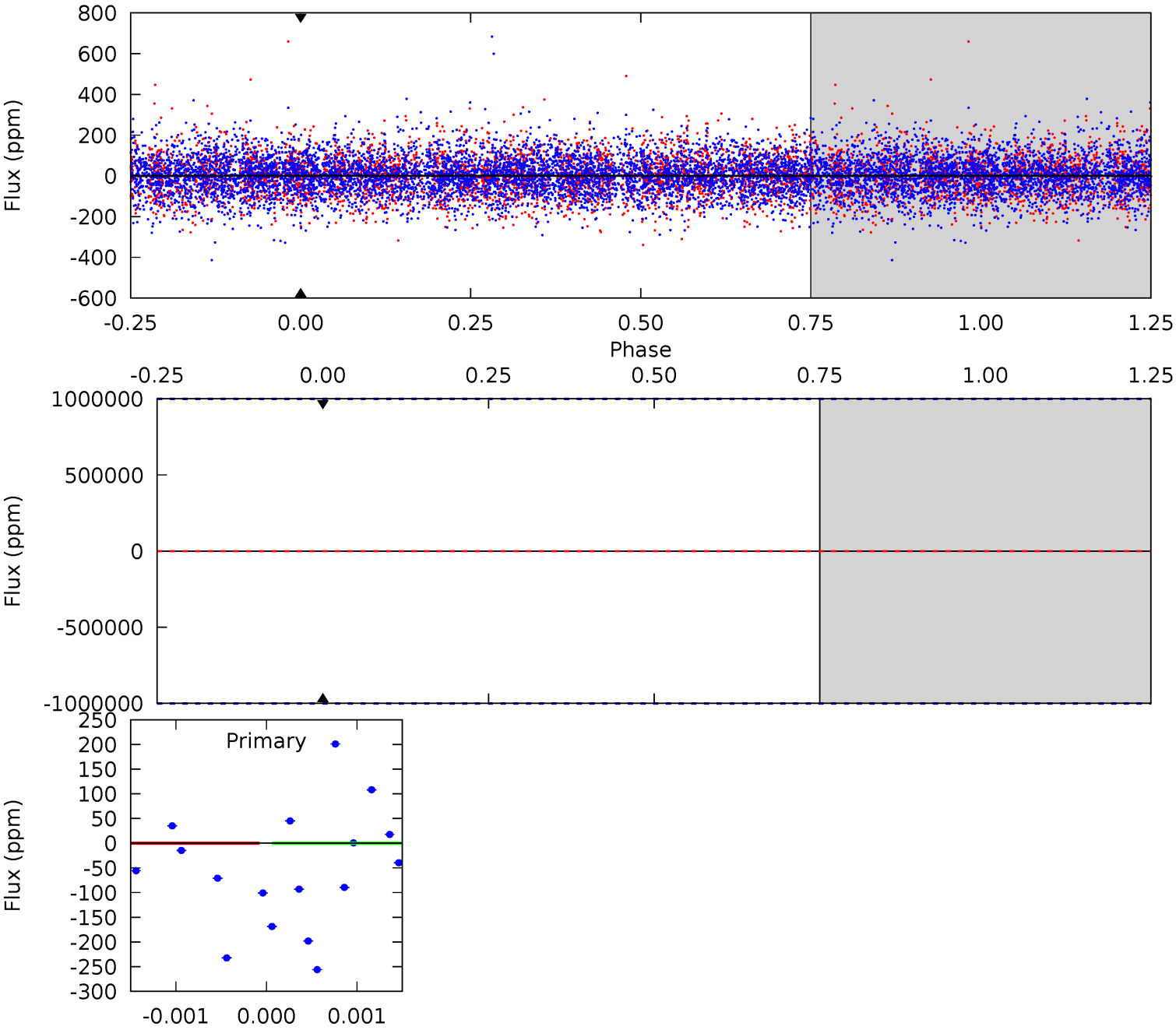


This plot does not exist for this TCE.

DV Model-Shift Uniqueness Test

008553462-10, P = 42.186045 Days, E = 102.434327 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
0	0	0	0	1.00	1.00	1.00	0	0	0	0	0	0	0	0



Alt Model-Shift Uniqueness Test

This plot does not exist for this TCE.

Stellar Parameters For KIC 008553462

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R (R_{\odot})$	$M(M_{\odot})$	$p_{\star} (\text{g}\cdot\text{cm}^{-3})$
	7296^{+203}_{-319}	$4.108^{+0.140}_{-0.186}$	$0.020^{+0.200}_{-0.350}$	$1.844^{+0.558}_{-0.372}$	$1.590^{+0.203}_{-0.248}$	$0.357^{+0.259}_{-0.175}$
	+3%/-4%	+3%/-5%	+1000%/-1750%	+30%/-20%	+13%/-16%	+72%/-49%
Source	PHO1	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008553462-10 / KOI

Detrend	Depth (ppm)	$R_p (R_{\oplus})$	$T_{max} (K)$	$T_{obs} (K)$	A_{obs}
DV	0 ± 1000000	$14.42^{+16.01}_{-10.20}$	1161^{+93}_{-76}	3439^{+44486}_{-35089}	29^{+47446}_{-26439}
Alt.	N/A	N/A	N/A	N/A	N/A

T_{max} = Theoretical Maximum Planetary Temperature
 T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)
 A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

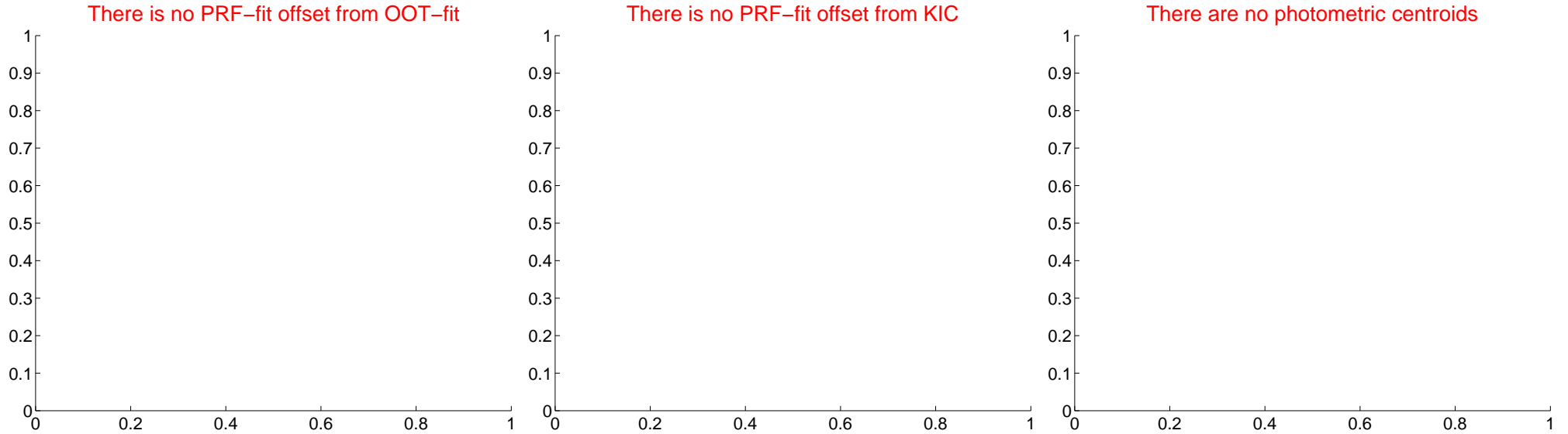
DV Centroid Data

Supplemental centroid analysis for 008553462-10. Kepler magnitude: 12.60. Transit SNR -1.00

There are 0 quarters with good PRF difference image offsets

The direct PRF centroid is offset from the target star catalog position by about NaN arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	—	—	—	—
PRF-fit source offset from KIC position	—	—	—	—
photometric centroid source offset	—	—	—	—



Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

